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AEROS MANUAL SERIES
VOLUME III:
SUMMARY AND RETRIEVAL

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Waste Management
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

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Volume III of the AEROS Manual describes and illustrates the reporting and analysis capabilities of the various AEROS systems. The reports available from each of the major systems are described and their retrieval options are explained. This manual also describes the user access procedures for obtaining AEROS reports. Standard publications of NADB for providing quarterly or annual information on emissions and air quality are described. Specific examples of applications of AEROS data, and the use of AEROS reports are described. The manual also gives an overview of the Comprehensive Data Handling System (COHS), which is an AEROS-related system for storing and reporting air quality and emissions data.

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VOLUME III:
SUMMARY AND RETRIEVAL

National Air Data Branch
Monitoring and Data Analysis Division

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Waste Management
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

May 1976

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PREFACE

This third volume of the AEROS Manual Series is the combined result of efforts by EPA personnel and Agency contractors. Major portions were provided by GCA Corporation, Bedford, Massachusetts, under Contract No. 68-02-1376, Task Order No. 17 (EPA Project Officer Jacob G. Summers) and by Booz, Allen, and Hamilton, Inc., Bethesda, Maryland, under Contract No. 68-02-1005, Task Order No. 7 (EPA Project Officer Charles O. Mann). At the time these contracts were awarded, a standard format had not been developed. As new data become available, however, supplements to this parent document will be issued using a more uniform format.

To facilitate the addition of updates, revisions, or additions, a three-hole-punched format was adopted for the manual. The document can be placed in a binder or secured in such a manner that the new pages can be easily inserted.

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LIST OF ABBREVIATIONS

AEROS.......Aerometric and Emission Reporting System
AQDM........Air Quality Display Model
AQCR........Air Quality Control Region
AQDHS-II....Air Quality Data Handling Subsystem-II
ATS.........AEROS Terminal System
CAASE.......Computer-Assisted Area Source Emissions
CDHS........Comprehensive Data Handling System
CDM.........Comprehensive Data Management
EIS/P&R.....Emissions Inventory Subsystem/Permit and Registration
EMS.........Enforcement Management Subsystem
FMVECP......Federal Motor Vehicle Emissions Control Program
FPC ....Federal Power Commission
GMT.........Greenwich Mean Time
HATREMS.....Hazardous and Trace Emissions System
IPP.........Implementation Planning Program
MSL.........Mean Sea Level
NAAQS.......National Ambient Air Quality Standard
NADB........National Air Data Branch
NCC.........National Computer Center
NEDS........National Emissions Data System
NER.........National Emissions Report
OGC.........Office of General Counsel
QCI.........Quality Control Index
QAMIS.......Quality Assurance Management Information System
REPS........Regional Emissions Projection System
SAROAD......Storage and Retrieval of Aerometric Data
SDS.........Systems Development Section
SCC.........Source Classification Code
SEAS........Strategic Environmental Assessment System
SIC.........Standard Industrial Classification Code
SIEFA.......Source Inventroy Emission Factor Analysis
SIP.........State Implementation Plan
SMSA........Standard Metropolitan Statistical Area
SOTDAT......Source Test Data System
TCP.........Transportation Control Plan
UTM.........Universal Transverse Mercator
WSAP........Weighted Sensitivity Analysis Program

ABSTRACT

Volume III of the AEROS manual describes and illustrates the reporting and analysis capabilities of the various AEROS systems. The reports available from each of the major systems are described and their retrieval options are explained. Sample computer printouts are used to illustrate the report formats.

This manual also describes the analysis packages available for use in the evaluation of AEROS data and describes the user access procedures for obtaining AEROS reports. It describes the standard publications available from the NADB to provide quarterly or annual information on emissions and air quality.

In an applications section, the manual provides specific examples of applications of AEROS data. The use of AEROS reports in typical air quality control activities is described.

The manual also gives an overview of the Comprehensive Data Handling System (CDHS), which is an AEROS-related system for storing and reporting air quality and emissions data.

Volume III of the AEROS manual illustrates the reporting capabilities of the various AEROS systems:

- Section 2 describes and illustrates the reports available from the major AEROS systems. The sorting and retrieval options for each are also described.
- Section 3 presents the various data analysis packages available for use with the AEROS data bases. These packages may be used in evaluating AEROS data and in utilizing AEROS data in modeling or analysis procedures such as the Implementation Planning Program.
- Section 4 outlines the user access procedures for obtaining reports described in this volume. Procedures for both EPA users and non-EPA users are included.
- Section 5 describes the various standard publications produced by EPA. These publications, which provide quarterly or annual information on emission levels as well as information on ambient air quality and air quality monitoring procedures, are based primarily on the AEROS emission system (NEDS) and the air quality monitoring system (SAROAD).
- Section 6 presents specific examples of the application of certain AEROS data retrievals and describes the use of AEROS reports in typical air quality control activities.
- Section 7 describes procedures and the interaction between SDS and programmers, using AEROS data files and shows the file formats for commonly used files.
- Section 8 describes the procedures used to determine whether data coded confidential are properly classified. Steps required to handle confidentiality are described.
- Section 9 describes the Comprehensive Data Handling System, which is an AEROS-related and AEROS-compatible system for monitoring pollutant emissions as well as air quality measurements. This system is utilized primarily by the states to aid in meeting their reporting requirements for entering emissions and monitoring data into the AEROS files.

In this section, the reporting capabilities of the various data systems comprising AEROS are described. Individual reports from each system are described and illustrated. These systems and data banks include the following:

Emission Data System

Source Test Data System

Air Quality Data System

Air Quality Assurance Data

Hazardous and Trace Emissions Data System

State Implementation Plans System

Federal Power Commission Data

Auxiliary Data

The National Emissions Data System (NEDS) is a computer-based emission inventory system for storing and retrieving estimates of emissions of the criteria pollutants from both point and area sources. The system is capable of producing raw data reports and summary reports of the emissions inventory data in the NEDS files, as well as management reports to aid in maintenance of the inventory file.

The point and area source data are maintained in a NEDS "master file," which is updated periodically by adding new sources, changing entries for sources that have modified their operating characteristics, and flagging sources that have ceased operation. This updating is accomplished by generating, from the existing master file, a "new" master file that incorporates the point and area source updates.

Although the master file is the main storage base for emissions inventory data, it does not serve as the working storage base for generating NEDS reports. For this purpose, a NEDS "user file" is generated from the master file. The user file contains computer-calculated emissions that are derived according to the calculation procedures described below. This file is stored in a form that is more easily accessed for report generation, than is the master file. The NEDS user file is generated from the most current master file and it then remains available for report generation until the next master file update. At that time, a new user file is created and the previous user file is erased. By this procedure, the most current NEDS data are always maintained in an easy access storage mode for production of NEDS emissions reports.

Various other files are used by the NEDS system in conjunction with the master file and user file. Some of these serve as geographic reference files for providing state, county, and city names used in report headings and for identifying the states and counties included within each AQCR or EPA region. Other files are associated with the actual emissions estimates. The most important of these is the NEDS emission factor file that stores particulate, SO_2, NO_x, HC, and CO emission factors* for every source classification code (SCC). The source classification codes identify individual processes or activities that emit pollutants through a point source (e.g., electric generation using a particular size and type of boiler and fuel). The point source classification codes use four levels of identification. These levels define general source categories and subcategories within those general categories. The two most-general categories usually define the process (e.g., industrial process/chemical mfg) the remaining two subcategories define the fuel or material processed and describe a subprocess or a qualification of the fuel or process (e.g., paint mfg/pigment kiln).

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*Compilation of Air Pollutant Emission Factors. Environmental Protection Agency, Research Triangle Park, N.C. Publication No. AP-42. April 1973

POINT SOURCE EMISSIONS CALCULATIONS

Emission factors established for each Point Source SCC are stored in the NEDS emission factor file and are used to derive the NEDS computer calculated emissions The procedures used in deriving calculated emissions are dependent on the method by which estimated emissions are determined. The emission estimation methods recognized by NEDS are:

0. No emissions
1. Stack-test results or other emission measurement
2. Material balance using engineering knowledge and expertise of process
3. Emissions calculation using emissions factors
4. Guess
5. Emission calculation using special emission factors that differ from the SCC listing
6. New source for which building approval has been granted but is not yet in operation (zero emissions)
7. Source which has ceased to operate (zero emissions)

The procedure for computer calculation of emissions for each of these cases is as follows:

Methods 0 through 2:	Calculated emissions are made equal to estimated emissions.
Method 3:	Calculated emissions are derived using operating data, emission factors and control efficiencies.* If the required factors are not all available, calculated emissions are made equal to zero.
Method 4:	Calculated emissions are derived using operating data, emission factors and control efficiencies.* If the required factors are not all available, calculated emissions are made equal to estimated emissions.

---

* The standard emission calculation procedure is:

$$\text{emissions} = (\text{operating rate})\text{x}(\text{emission factor})\text{x}(\text{fuel parameter})\text{x}\left(\frac{\text{100-control efficiency}}{100}\right)$$

where: operating rate is data from NEDS file.
control efficiency is data from NEDS file.
fuel parameter is sulfur or ash content of the fuel (included where applicable) from the NEDS file.
emission factor is from the NEDS emission factor file.

Method 5: Calculated emissions are made equal to estimated emissions.

Method 6 and 7: Calculated emissions are set to zero.

AREA SOURCE EMISSIONS CALCULATIONS

Area source emissions are always computer-calculated using emission factors for each pollutant and multiplying by area source category activity level and, if appropriate, fuel sulfur and ash content. The standard area source calculation procedure is the following:

emissions = (activity level)x(emission factor)x(ash or sulfur content)

where: Activity level is the area source activity for an area source emissions category (obtained from the NEDS file).

Emission factor is an area source emission factor.

Ash or sulfur content is the fuel composition (where appropriate).

Emissions are calculated by this procedure for each emissions category in an area source and are then summed to provide total emissions for an area source. The only exception to the standard area source emission calculation procedure is the automotive emissions calculation. Automotive emissions (area source) are calculated by apportioning the estimated vehicle miles traveled (within an area source) into vehicle categories (light vehicles, heavy gasoline vehicles, and heavy diesel vehicles) and into road type categories (limited access roads, suburban roads, rural roads, and urban roads) and then applying appropriate emission factors to each classification.

REPORTS AVAILABLE

The reports of point and area emissions are available from NEDS in three general categories:

- Raw Data Reports
- Summary Reports
- Management Reports

Raw data reports list the actual stored data. This includes the following information for point sources:

- Plant identification
- Plant location
- Plant operating data
- Stack and control equipment data
- Emission estimates
- Fuel or raw material processing rates

Raw area sources data includes the following:

- Area identification
- Emissions and activity levels of the area source processes
- Total emissions of the five criteria pollutants

Summary reports provide geographic summaries or summaries by SCC of emissions and fuel use data. The management reports provide information on the status of the NEDS files.

Table 2.1.0.a summarizes the retrieval options available for each of the NEDS reports.

Table 2.1.0.a. SUMMARY OF NEDS RETRIEVALS

Report	Nation	State	EPA Region	AQCR	State Portions of Interstate AQCR's	County	Plant Number	Point Number	Source Classification Code	Ownership	Standard Industrial Classification Code	Emission Estimation Method	Sources Emitting More Than X Tons of Any One Pollutant	Years of Record for AQ Data	Valid Combination of Items
Raw Data Reports															
Point Source Report	X	X		X		X	X	X	X	X	X	X	X		X
Condensed Point Source Report	X	X		X		X	X	X	X	X	X	X	X		X
Area Source Report		X				X									X
Allowed Versus Computed Emissions Report	X	X				X	X	X							X
Point Source Cards	X	X		X		X	X	X	X	X	X	X	X		X
Area Source Cards	X	X		X		X									X
Summary Reports															
Emission Summary Report	X	X	X	X	X	X									
Area Source Fuel Usage Report		X													
Annual Fuel Summary Report	X	X		X		X									
Plant Emission Summary Report	X	X		X		X									
SCC Emissions Report	X	X													
Plant Name Report	X	X		X		X	X	X	X	X	X	X	X		X
Emissions/Air Quality Report				X										X	X
Management Reports															
Plant-Point-SCC Count Report	X														
Missing Item Report	X	X		X		X	X	X	X	X	X	X	X		X
Highest Plant Number by County Report		X													

2.1.1.1 POINT SOURCE REPORT

2.1.1.1.1 GENERAL DESCRIPTION

Sources emitting more than a specific amount per year of any one of the five criteria pollutants (particulates, sulfur oxides, nitrogen oxides, hydrocarbons, and carbon monoxide) are classified by EPA as point sources.* The basic "Point Source Report" produces a full, formatted listing of all relevant identifying and descriptive point source data as well as estimated and NEDS calculated emissions for each criteria pollutant. More specifically, the following information is available for each emission point[+] for each criteria pollutant:

a. Geographic Location
b. Year of Record
c. Modeling Parameters - UTM coordinates, stack height, diameter, temperature, etc.
d. Emission Data - Throughput rate, estimated emissions, estimation method, control equipment, control efficiency, etc.
e. Allowable Emissions
f. Compliance Status
g. Operating Information
h. Annual Fuel Consumption
i. Source Operating Characteristics

Each page of computer output contains the data for one process (SCC).

2.1.1.1.2 RETRIEVALS AVAILABLE

The following "Point Source Report" retrieval options are available:

a. State
b. AQCR
c. County
d. Plant
e. Point
f. Ownership Code

---

*The specific amount is an SIP reporting requirement defined in 40 CFR, Section 51.7. NEDS also accepts data based on a state's definition of a point source.

[+] An emission point is a source which is coded on a single NEDS coding form.

g. SIC
h. Emissions Estimate Method
i. SCC (I, I+II, I+II+III, I+II+III+IV)
j. Sources emitting more than x tons of any one pollutant
k. Any combinations of the above

There are only certain combinations of the retrieval categories listed above that are valid. For example, the county code numbers are unique within each state but not across state boundaries. Thus although no two counties in Alaska have the same county code number, 0020 is the county code number both for Abberville County in Alaska and Arkadelphia County in Arkansas. As a result retrieval by county is only meaningful when combined with retrieval by state.

In the same manner retrieval by plant requires specification of county and state identifiers; retrieval by point requires specification of plant, county, and state indentifiers.

It should be noted that the same type of restriction applies to retrieval by SCC parts. Retrieval by SCC part IV is dependent on retrieval by SCC part III, retrieval by part III on retrievals by part II, etc.

2.1.1.1.3 SORTS AVAILABLE

Subject to the same restrictions set forth for "Retrievals Available," the selected data can be sorted in ascending (a) or descending (d) sequence for any of the following data values:

a. State (a)
b. AQCR (a)
c. County (a)
d. Plant Number (a)
e. Point Number (a)
f. Source Classification Code (a)
g. Ownership (Federal, local government, utility, or all) (a)
h. Standard Industrial Classification (SIC) Code (a)
i. Emission Estimation Method (a)
j. Plant Names in Alphabetical Order (a)
k. Amount of emissions for any one of the five criteria pollutants (d)
l. Year of Record (a)
m. Control Equipment (a)
n. Control Efficiency (d)
o. Fuel Sulfur Content (d)
p. Fuel Ash Content (d)
q. Major City Code (a)
r. UTM Coordinates (d)
s. Operating Rate (d)
t. Confidentiality (a)

2.1.1.1.4 SAMPLE REPORT

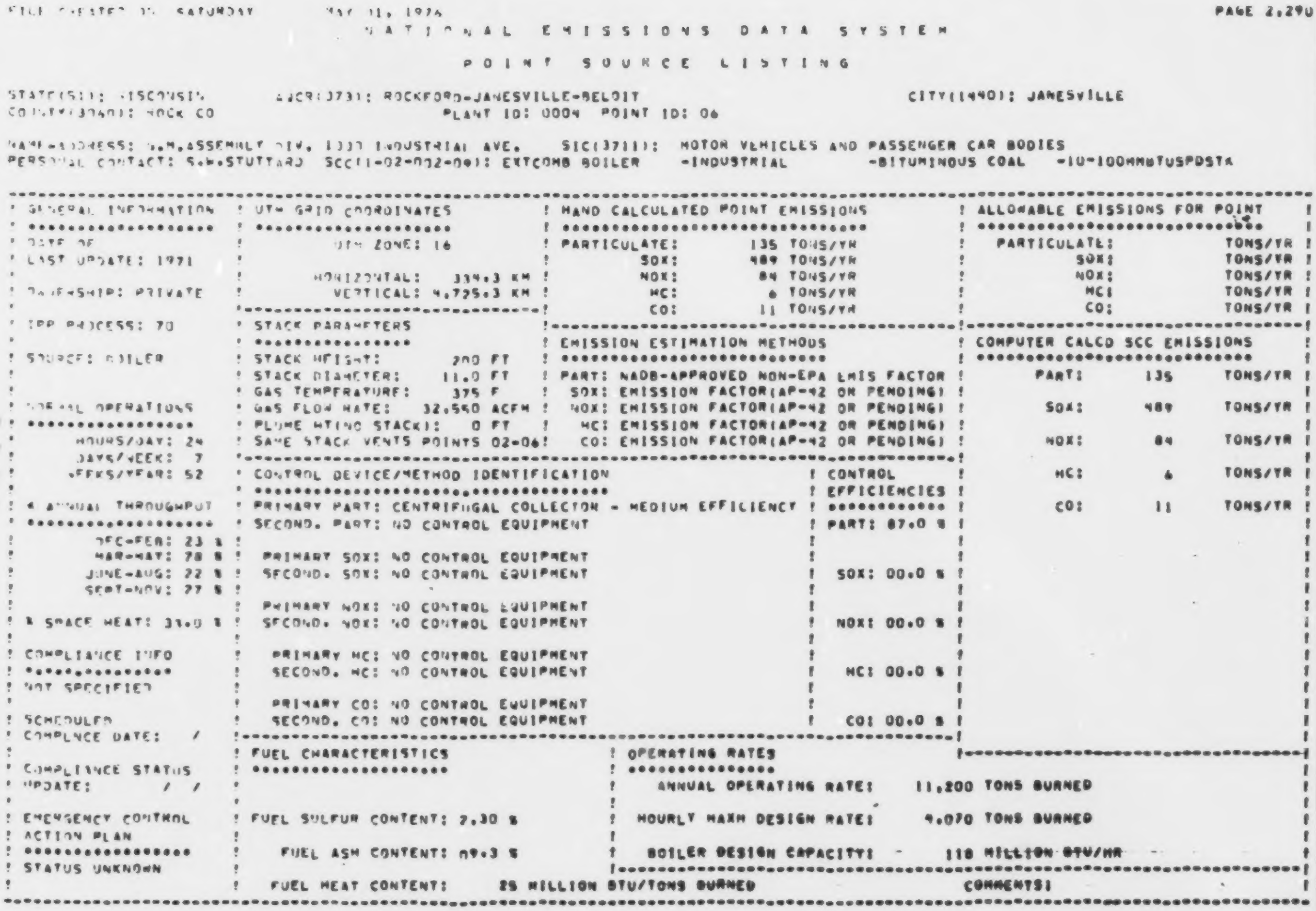
Figure 2.1.1.a is a sample "Point Source Report" retrieved for Rock County in the State of Wisconsin.

2.1.1.1.5 COMMENTS

Depending upon the retrieval options selected, some point sources located in the geographic areas under consideration may be omitted from the report listing and some may be duplicated.

For example, consider a "Point Source Report" based on retrieval by SCC or SIC category. There may well be some point sources located in the requested geographic areas or plants which do not fall within the requested SCC or SIC categories. These point sources will be omitted from the report.

On the other hand, a point source may be included for more than one SCC. When retrieval is by plant, the data for such a point source will be printed once for each of its SCC's. When determining total plant emissions from such a printout, care must be taken to avoid adding duplicate "emissions estimates" into the total. The calculated emissions should be used to determine total plant emissions.



```
FILE CREATED ON SATURDAY       MAY 31, 1975                                                                PAGE 2,290
                              N A T I O N A L   E M I S S I O N S   D A T A   S Y S T E M

                                          P O I N T   S O U R C E   L I S T I N G

STATE(51): WISCONSIN       AQCR(073): ROCKFORD-JANESVILLE-BELOIT                        CITY(1440): JANESVILLE
COUNTY(3940): ROCK CO                              PLANT ID: 0004  POINT ID: 06

NAME-ADDRESS: G.M.ASSEMBLY DIV, 1000 INDUSTRIAL AVE.    SIC(3711):  MOTOR VEHICLES AND PASSENGER CAR BODIES
PERSONAL CONTACT: S.W.STUTTARD  SCC(1-02-002-04): EXTCOMB BOILER    -INDUSTRIAL         -BITUMINOUS COAL   -10-100MMBTUSPDSTK

-----------------------------------------------------------------------------------------------------------------------------
! GENERAL INFORMATION  ! UTM GRID COORDINATES          ! HAND CALCULATED POINT EMISSIONS      ! ALLOWABLE EMISSIONS FOR POINT   !
! ******************** ! ********************          ! ******************************       ! ******************************  !
! DATE OF              !         UTM ZONE: 16          ! PARTICULATE:        135 TONS/YR      !   PARTICULATE:          TONS/YR !
! LAST UPDATE: 1971    !                               !         SOX:        489 TONS/YR      !           SOX:          TONS/YR !
!                      !      HORIZONTAL:   334.3 KM   !         NOX:         84 TONS/YR      !           NOX:          TONS/YR !
! OWNERSHIP: PRIVATE   !        VERTICAL: 4,725.3 KM   !          HC:          6 TONS/YR      !            HC:          TONS/YR !
!                      !-------------------------------!          CO:         11 TONS/YR      !            CO:          TONS/YR !
! IPP PROCESS: 70      ! STACK PARAMETERS              !--------------------------------------!---------------------------------!
!                      ! ****************              ! EMISSION ESTIMATION METHODS          ! COMPUTER CALCD SCC EMISSIONS    !
! SOURCE: BOILER       ! STACK HEIGHT:        200 FT   ! **************************           ! ****************************    !
!                      ! STACK DIAMETER:     11.0 FT   ! PART: NADB-APPROVED NON-EPA EMIS FACTOR !     PART:     135    TONS/YR !
!                      ! GAS TEMPERATURE:      375 F   !  SOX: EMISSION FACTOR(AP-42 OR PENDING) !                            !
! NORMAL OPERATIONS    ! GAS FLOW RATE:   32,550 ACFM  !  NOX: EMISSION FACTOR(AP-42 OR PENDING) !     SOX:     489    TONS/YR !
! *****************    ! PLUME HT(NO STACK):    0 FT   !   HC: EMISSION FACTOR(AP-42 OR PENDING) !                            !
!      HOURS/DAY: 24   ! SAME STACK VENTS POINTS 02-06!   CO: EMISSION FACTOR(AP-42 OR PENDING) !     NOX:      84    TONS/YR !
!       DAYS/WEEK:  7  !--------------------------------------------------------------------------!                         !
!     WEEKS/YEAR: 52   ! CONTROL DEVICE/METHOD IDENTIFICATION                ! CONTROL            !      HC:       6    TONS/YR !
!                      ! ************************************                ! EFFICIENCIES       !                            !
! % ANNUAL THROUGHPUT  ! PRIMARY PART: CENTRIFUGAL COLLECTOR - MEDIUM EFFICIENCY ! ************    !      CO:      11    TONS/YR !
! ******************** ! SECOND. PART: NO CONTROL EQUIPMENT                  ! PART: 87.0 %       !                            !
!        DEC-FEB: 23 % !                                                     !                    !                            !
!        MAR-MAY: 28 % !  PRIMARY SOX: NO CONTROL EQUIPMENT                  !                    !                            !
!       JUNE-AUG: 22 % !  SECOND. SOX: NO CONTROL EQUIPMENT                  !   SOX: 00.0 %      !                            !
!       SEPT-NOV: 27 % !                                                     !                    !                            !
!                      !  PRIMARY NOX: NO CONTROL EQUIPMENT                  !                    !                            !
! % SPACE HEAT: 33.0 % !  SECOND. NOX: NO CONTROL EQUIPMENT                  !   NOX: 00.0 %      !                            !
!                      !                                                     !                    !                            !
! COMPLIANCE INFO      !   PRIMARY HC: NO CONTROL EQUIPMENT                  !                    !                            !
! ***************      !   SECOND. HC: NO CONTROL EQUIPMENT                  !    HC: 00.0 %      !                            !
! NOT SPECIFIED        !                                                     !                    !                            !
!                      !   PRIMARY CO: NO CONTROL EQUIPMENT                  !                    !                            !
! SCHEDULED            !   SECOND. CO: NO CONTROL EQUIPMENT                  !    CO: 00.0 %      !                            !
! COMPLNCE DATE:   /   !---------------------------------------------------------------------------!-------------------------!
!                      ! FUEL CHARACTERISTICS           ! OPERATING RATES                                                    !
! COMPLIANCE STATUS    ! ********************           ! ***************                                                    !
! UPDATE:        /  /  !                                !    ANNUAL OPERATING RATE:    11,200 TONS BURNED                     !
!                      !                                !                                                                    !
! EMERGENCY CONTROL    ! FUEL SULFUR CONTENT: 2.30 %    !  HOURLY MAXM DESIGN RATE:     4.070 TONS BURNED                     !
! ACTION PLAN          !                                !                                                                    !
! ****************     !   FUEL ASH CONTENT: 09.3 %     !   BOILER DESIGN CAPACITY:     118 MILLION BTU/HR                   !
! STATUS UNKNOWN       !                                !--------------------------------------------------------------------!
!                      !  FUEL HEAT CONTENT:      25 MILLION BTU/TONS BURNED                 COMMENTS:                       !
-----------------------------------------------------------------------------------------------------------------------------
```

Figure 2.1.1.a. Point Source Report

2.1.1.2 CONDENSED POINT SOURCE REPORT

2.1.1.2.1 GENERAL DESCRIPTION

The "Condensed Point Source Report" is an abbreviated listing for emission points. To generate this report, a particular pollutant and the minimum value of emissions of that pollutant must be specified. Emission points emitting more than that minimum value of the pollutant will be included in the report.

A heading containing the creation date, minimum value, specified pollutant, and an indication of whether the data are in English or metric units is printed first. Next is displayed a five-line summary for each SCC per emission point.

The five line summary includes the following information for each SCC per emission point: geographic location, ownership, year of record, and annual emissions of each of the five criteria pollutants. Also included are the control equipment, control efficiency, and estimation method relevant to the specified pollutant.

2.1.1.2.2 RETRIEVALS AVAILABLE

The retrievals available for the "Condensed Point Source Report" are exactly the same as those available for the "Point Source Report."

2.1.1.2.3 SORTS AVAILABLE

The sorts available for the "Condensed Point Source Report" are exactly the same as those available for the "Point Source Report."

2.1.1.2.4 SAMPLE REPORT

Figure 2.1.1.b is a sample "Condensed Point Source Report." The pollutant specified is hydrocarbons and the minimum value of the pollutant included is 50 tons. The retrieval requested is for the State of Rhode Island.

```
FILE CREATED ON WEDNESDAY       MARCH 12, 1975

                     NATIONAL   EMISSION   DATA   SYSTEM

                      CONDENSED POINT SOURCE LISTING FOR HYDROCARBONS
                         FOR ALL VALUES > THAN OR = TO      50
                         EMISSIONS ARE IN SHORT TONS PER YEAR

                                                                PART   SOX   NOX   HC    CO

0006:  US NAVY AIR STATION, KINGSTON             OWNERSHIP:  FEDRL GOVT    93     6    35   175   496
41:  RHODE ISLAND    0380:  WASHINGTON           YEAR OF RECORD:  1969
120:  METROPOLITAN PROVIDENCE (MAS
060:  NO CONTROL EQUIPMENT                    EFF =     % POINT:  07
ESTIMATE BY (3) USED EMISSIONS FACTORS    SIC = 4953   SCC  =  5-01-002-01

0040:  PROVIDENCE DUMP, PROVIDENCE               OWNERSHIP:  LOCAL GOVT    40     3    15    75   213
41:  RHODE ISLAND    0320:  PROVIDENCE           YEAR OF RECORD:  1969
120:  METROPOLITAN PROVIDENCE (MAS
060:  NO CONTROL EQUIPMENT                    EFF =     % POINT:  02
ESTIMATE BY (3) USED EMISSIONS FACTORS    SIC = 4953   SCC  =  5-01-002-01
```

Figure 2.1.1.b. Condensed Point Source Report

2.1.1.3 AREA SOURCE REPORT

2.1.1.3.1 GENERAL DESCRIPTION

Area sources are an aggregation of all sources not defined as point sources in a specific geographic area. Area sources usually include all mobile sources and any stationary sources too small, difficult, or numerous to classify as point sources. Area source emissions are assumed to be spread over the entire area that has been defined as an area source. Activity level data for these sources are compiled on a countywide basis. The "Area Source Report" is a formatted listing of the following information for each area source retrieved:

a. Area identification
b. Total emissions estimated from SIP's
c. Activity of stationary sources
d. Activity of solid waste disposal
e. Activity of mobile sources - fuel usage
f. Activity of miscellaneous sources
g. Total calculated emissions

Two area sources are printed per page of computer output.

2.1.1.3.2 RETRIEVALS AVAILABLE

The "Area Source Report" retrieval options are as follows:

a. State
b. State/County

2.1.1.3.3 SORTS AVAILABLE

Area sources are sorted sequentially within state by county. No other sort options are available for area sources.

2.1.1.3.4 SAMPLE REPORT

Figure 2.1.1.c is a sample "Area Source Report" retrieved for the first two counties of the State of Rhode Island.

```
                              SOURCE ID: A STATE-  41  COUNTY-  0060  AQCR-  120  YEAR-  72
----------------------------------------------------------------------------------------------------------------------------------
!EM-EST-PRT(100-TONS)=              ! EM-EST-SO2(100-TONS)=              ! EM-EST-NOX(100-TONS)=              ! EM-EST-HC(100-TONS)=                       !
! EM-EST-CO(100-TONS)=              !     % SULF-ANTH-COAL=           0.7!    % SULF-BITUM-COAL=           2.0!     % SULF-DIST-OIL=                0.2!
!    % SULF-RESID-OIL=           0.7!      % ASH-ANTH-COAL=          11.0!     % ASH-BITUM-COAL=           8.0!    RES-ANTH(10-TONS)=                 13!
!  RES-BITUM(10-TONS)=             0!RES-DIS-OIL(10E4-GAL)=          1034!RES-RID-OIL(10E4-GAL)=             0!RES-N-GAS(10E7-CUFT)=                 53!
!  RES-WOOD(100-TONS)=             2!      CI-ANTH(10-TONS)=             4!     CI-BITUM(10-TONS)=             3!CI-DIS-OIL(10E4-GAL)=                168!
!CI-RID-OIL(10E4-GAL)=           380!  CI-N-GAS(10E7-CUFT)=            23!     CI-WOOD(100-TONS)=              !   IND-ANTH(10-TONS)=                  0!
!  IND-BITUM(10-TONS)=            36!     IND-COKE(10-TONS)=              !IND-DIS-OIL(10E4-GAL)=           285!IND-RD-OIL(10E4-GAL)=                295!
!IND-N-GAS(10E7-CUFT)=            17!    IND-WOOD(100-TONS)=              !IND-PR-GAS(10E7-CUFT)=              !------------------------------------!
! RES-OS-INC(10-TONS)=            40! IND-OS-INC(100-TONS)=             1!  CI-OS-INC(100-TONS)=             4!   PART-EMS(T/YR)=             363.090!
!RES-OP-BRN(100-TONS)=            73!IND-OPN-BRN(100-TONS)=             7! CI-OPN-BRN(100-TONS)=             6!    SO2-EMS(T/YR)=             672.150!
!GAS-LT-VEH(1000-GAL)=         15879!GAS-HVY-VEH(1000-GAL)=          1859!GAS-OFF-HWY(1000-GAL)=             0!    NOX-EMS(T/YR)=            1996.249!
!DIE-HV-VEH(1000-GAL)=          1086!DIE-OFF-HWY(10E4-GAL)=            32! DIE-RR-LOC(10E4-GAL)=             4!     HC-EMS(T/YR)=            3446.596!
!    COUNTY-POP(1000)=            45!          DENSITY-CODE=             9!MIL-AIRCRAFT(100--TO)=              !     CO-EMS(T/YR)=           16886.807!
!CIV-AIRCRAFT(10-LTO)=              !COMM-AIRCRAFT(10-LTO)=              !   VES-BITUM(10-TONS)=             0!NO.  6-EMS(T/YR)=                0.000!
!VES-DIE-OL(10E4-GAL)=              !VES-RID-OIL(10E4-GAL)=              !     VES-GAS(1000-GAL)=           711!NO.  7-EMS(T/YR)=                0.000!
! EVAP-SOLVENT(T/YR) =           112!    EVAP-GAS(10E5-GAL)=           175!VEH-MI-LA-RD(10E4-MI)=              !NO.  8-EMS(T/YR)=                0.000!
!VEH-MI-RURL(10E4-MI)=              !VEH-MI-SUBAN(10E4-MI)=              !VEH-MI-URBAN(10E4-MI)=              !NO.  9-EMS(T-YR)=                0.000!
!DIRT-RD-TRV(1000-MI)=              ! DIRT-AIR-STRIPS(LTO)=              !CONST-LAND(1000-ACRE)=              !NO. 10-EMS(T/YR)=                0.000!
!ROCK-H-ST(1000-TONS)=              !FOREST-FIRE-AR(ACRES)=              !FOR-FIRE QU(TON/ACRE)=              !NO. 11-EMS(T/YR)=                0.000!
!SLASH-BRN-ARE(ACRES)=              !SLASH-BN-QU(TON/ACRE)=              ! ORCHARD-HEATERS(100)=              !NO. 12-EMS(Y/YR)=                0.000!
!ORCH-DA-FIRED(DA/YR)=              !STRUCTURE-FIRES(#/YR)=              !CRB-SIZE-BK(100-CUYD)=              !- -----------------------------------!
! COAL-REF-BURN(#/YR)=              !             COMMENTS=                                                                                  !
----------------------------------------------------------------------------------------------------------------------------------
```

```
                              SOURCE ID: A STATE- 41  COUNTY- 0140  AQCR- 120  YEAR-  72
----------------------------------------------------------------------------------------------------------------------------------
!EM-EST-PRT(100-TONS)=              ! EM-EST-SO2(100-TONS)=              ! EM-EST-NOX(100-TONS)=              ! EM-EST-HC(100-TONS)=                       !
! EM-EST-CO(100-TONS)=              !     % SULF-ANTH-COAL=           0.7!    % SULF-BITUM-COAL=           2.0!     % SULF-DIST-OIL=                0.2!
!    % SULF-RESID-OIL=           0.7!      % ASH-ANTH-COAL=          11.0!     % ASH-BITUM-COAL=           8.0!    RES-ANTH(10-TONS)=                 63!
!  RES-BITUM(10-TONS)=             0!RES-DIS-OIL(10E4-GAL)=          3346!RES-RID-OIL(10E4-GAL)=             0!RES-N-GAS(10E7-CUFT)=                172!
!  RES-WOOD(100-TONS)=             3!      CI-ANTH(10-TONS)=            13!     CI-BITUM(10-TONS)=             8!CI-DIS-OIL(10E4-GAL)=                845!
!CI-RID-OIL(10E4-GAL)=          1896!  CI-N-GAS(10E7-CUFT)=            72!     CI-WOOD(100-TONS)=              !   IND-ANTH(10-TONS)=                  0!
!  IND-BITUM(10-TONS)=            73!     IND-COKE(10-TONS)=              !IND-DIS-OIL(10E4-GAL)=          1388!IND-RD-OIL(10E4-GAL)=               1441!
!IND N-GAS(10E7-CUFT)=            35!    IND-WOOD(100-TONS)=              !IND-PR-GAS(10E7-CUFT)=              !- ----------------------------------!
! RES-OS-INC(10-TONS)=           125! IND-OS-INC(100-TONS)=             2!  CI-OS-INC(100-TONS) =            15!   PART-EMS(T/YR)=            1119.887!
!RES-OP-BRN(100-TONS)=           228!IND-OPN-BRN(100-TONS)=            20! CI-OPN-BRN(100-TONS)=            19!    SO2-EMS(T/YR)=            2895.824!
!GAS-LT-VEH(1000-GAL)=         52096!GAS-HVY-VEH(1000-GAL)=          6100!GAS-OFF-HWY(1000-GAL)=             0!    NOX-EMS(T/YR)=            6875.385!
!DIE-HV-VEH(1000-GAL)=          3366!DIE-OFF-HWY(10E4-GAL)=           102! DIE-RR-LOC(10E4-GAL)=            12!     HC-EMS(T/YR)=           11140.904!
!    COUNTY-POP(1000)=           142!          DENSITY-CODE=             9!MIL-AIRCRAFT(100-LTO)=              !     CO-EMS(T/YR)=           52711.130!
!CIV-AIRCRAFT(10-LTO)=              !COMM-AIRCRAFT(10-LTO)=              !   VES-BITUM(10-TONS)=             0! NO.  6-EMS(T/YR)=               0.000!
!VES-DIE-OL(10E4-GAL)=              !VES-RID-OIL(10E4-GAL)=              !     VES-GAS(1000-GAL)=           619! NO.  7-EMS(T/YR)=               0.000!
!  EVAP-SOLVENT(T/YR)=           710!    EVAP-GAS(10E5-GAL)=           551!VEH-MI-LA-RD(10E4-MI)=              ! NO.  8-EMS(T/YR)=               0.000!
!VEH-MI-RUPL(10E4-MI)=              !VEH-MI-SUBAN(10E4-MI)=              !VEH-MI-URBAN(10E4-MI)=              ! NO.  9-EMS(T/YR)=               0.000!
!DIRT-RD-TRV(1000-MI)=              ! DIRT-AIR-STRIPS(LTO)=              !CONST--AND(1000-ACRE)=              !NO. 10-EMS(T/YR)=                0.000!
!ROCK-H-ST(1000-TONS)=              !FOREST-FIRE-AR(ACRES)=              !FOR-FIRE-QU(TON/ACRE)=              !NO. 11-EMS(T/YR)=                0.000!
!SLASH-BRN-ARE(ACRES)=              !SLASH-BN-QU(TON/ACRE)=              ! ORCHARD-HEATERS(100)=              !NO. 12-EMS(T/YR)=                0.000!
!ORCH-DA-FIRED(DA/YR)=              !STRUCTURE-FIRES(#/YR)=              !CRB-SIZE-BK(100-CUYD)=              !--- --------------------------------!
!COAL-RED-BURN (#/YR)=              !             COMMENTS=                                                                                  !
----------------------------------------------------------------------------------------------------------------------------------
```

Figure 2.1.1.c. Area Source Report

2.1.1.4 ALLOWED VERSUS COMPUTED EMISSIONS REPORT

2.1.1.4.1 GENERAL DESCRIPTION

For each pollutant, allowed emissions may be entered into NEDS for a given emission point. The calculated emissions refer to the emissions associated with each SCC of that point source. The "Allowed Versus Computed Emissions Report" was written to permit comparison of coded allowable emissions with total calculated emissions for the emission point.

Each plant requested is represented in the report by one or more pages of computer output. A heading containing the creation date and identifying geographic data are printed on the first page. In the pages that follow, the emission data for each plant are described with the points listed in ascending numerical order. For each point, the report prints the allowed emissions for each pollutant (zero values are printed as blanks), the calculated emissions of each pollutant for each SCC, and the totals of the calculated emissions for each pollutant.

2.1.1.4.2 RETRIEVALS AVAILABLE

The data may be retrieved for all or any combination of the five criteria pollutants. The option available for retrieval includes any combination of the following keys compatible with the restrictions set forth in the NEDS Point Source Report:

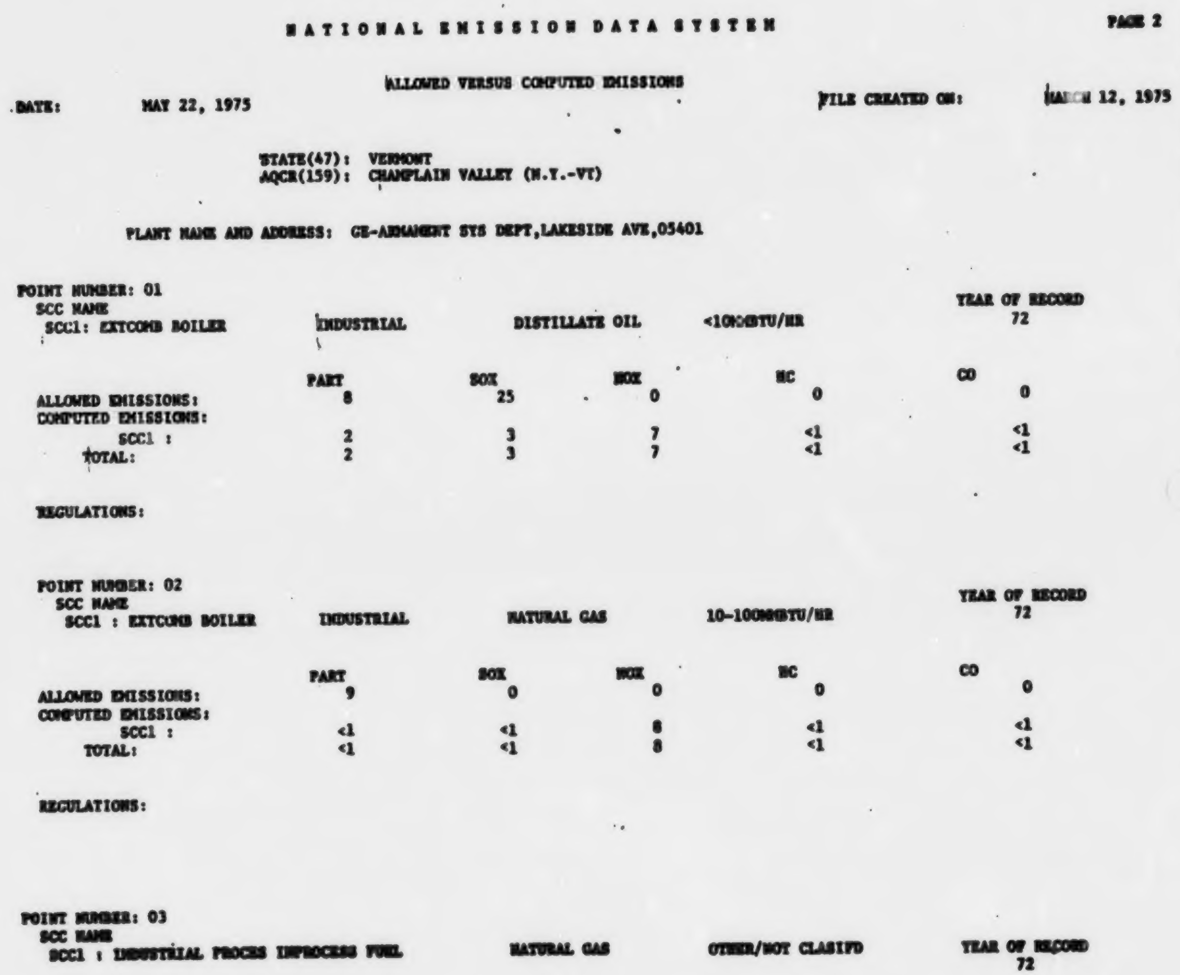
a. Nation
b. State
c. County
d. Plant
e. Point

2.1.1.4.3 SORTS AVAILABLE

The data may be sorted either by state or AQCR.

2.1.1.4.4 SAMPLE REPORT

Figure 2.1.1.d is a sample from an "Allowed Versus Computed Emissions Report" retrieved for the State of Vermont and the Air Quality Control Region of Champlain Valley.



```
                      NATIONAL EMISSION DATA SYSTEM                                    PAGE 2

                           ALLOWED VERSUS COMPUTED EMISSIONS
DATE:        MAY 22, 1975                                          FILE CREATED ON:      MARCH 12, 1975

                    STATE(47):  VERMONT
                    AQCR(159):  CHAMPLAIN VALLEY (N.Y.-VT)

          PLANT NAME AND ADDRESS:  GE-ARMAMENT SYS DEPT,LAKESIDE AVE,05401

POINT NUMBER: 01
  SCC NAME                                                                          YEAR OF RECORD
   SCC1: EXTCOMB BOILER        INDUSTRIAL        DISTILLATE OIL      <100MMBTU/HR         72

                               PART              SOX           NOX            HC              CO
  ALLOWED EMISSIONS:              8               25             0             0               0
  COMPUTED EMISSIONS:
          SCC1 :                  2                3             7            <1              <1
       TOTAL:                     2                3             7            <1              <1

  REGULATIONS:


  POINT NUMBER: 02
    SCC NAME                                                                        YEAR OF RECORD
     SCC1 : EXTCOMB BOILER      INDUSTRIAL        NATURAL GAS        10-100MMBTU/HR       72

                               PART              SOX           NOX            HC              CO
  ALLOWED EMISSIONS:              9                0             0             0               0
  COMPUTED EMISSIONS:
          SCC1 :                 <1               <1             8            <1              <1
       TOTAL:                    <1               <1             8            <1              <1

  REGULATIONS:



POINT NUMBER: 03
  SCC NAME
   SCC1 : INDUSTRIAL PROCES INPROCESS FUEL        NATURAL GAS        OTHER/NOT CLASIFD    YEAR OF RECORD
                                                                                              72
```

Figure 2.1.1.d. Allowed Versus Computed Emissions Report

```
                               PART             SOX             NOX              HC                 CO
  ALLOWED EMISSIONS:               2                 0               0                  0                     0
  COMPUTED EMISSIONS:
           SCC1 :
       TOTAL:


  REGULATIONS:




POINT NUMBER: 04
  SCC NAME                                                                                          YEAR OF RECORD
   SCC1 : POINT SC EVAP         SURFACE COATING      PAINT               GENERAL                          72


                               PART             SOX               NOX              HC                 CO
  ALLOWED EMISSIONS:                                                                   0
  COMPUTED EMISSIONS:
           SCC1 :                                                                     11
      TOTAL:                                                                          11


  REGULATIONS:
```

Figure 2.1.1.d (continued). Allowed Versus Computed Emissions Report

2.1.1.5 POINT SOURCE CARDS

2.1.1.1.1 GENERAL DESCRIPTION

The "Point Source Cards" report selects data from NEDS and creates punched cards or a magnetic tape in the NEDS point source input format.

2.1.1.5.2 RETRIEVALS AVAILABLE

Cards may be retrieved for any one or all of the criteria pollutants subject to the restrictions set forth in the NEDS Point Source Report for the following key items:

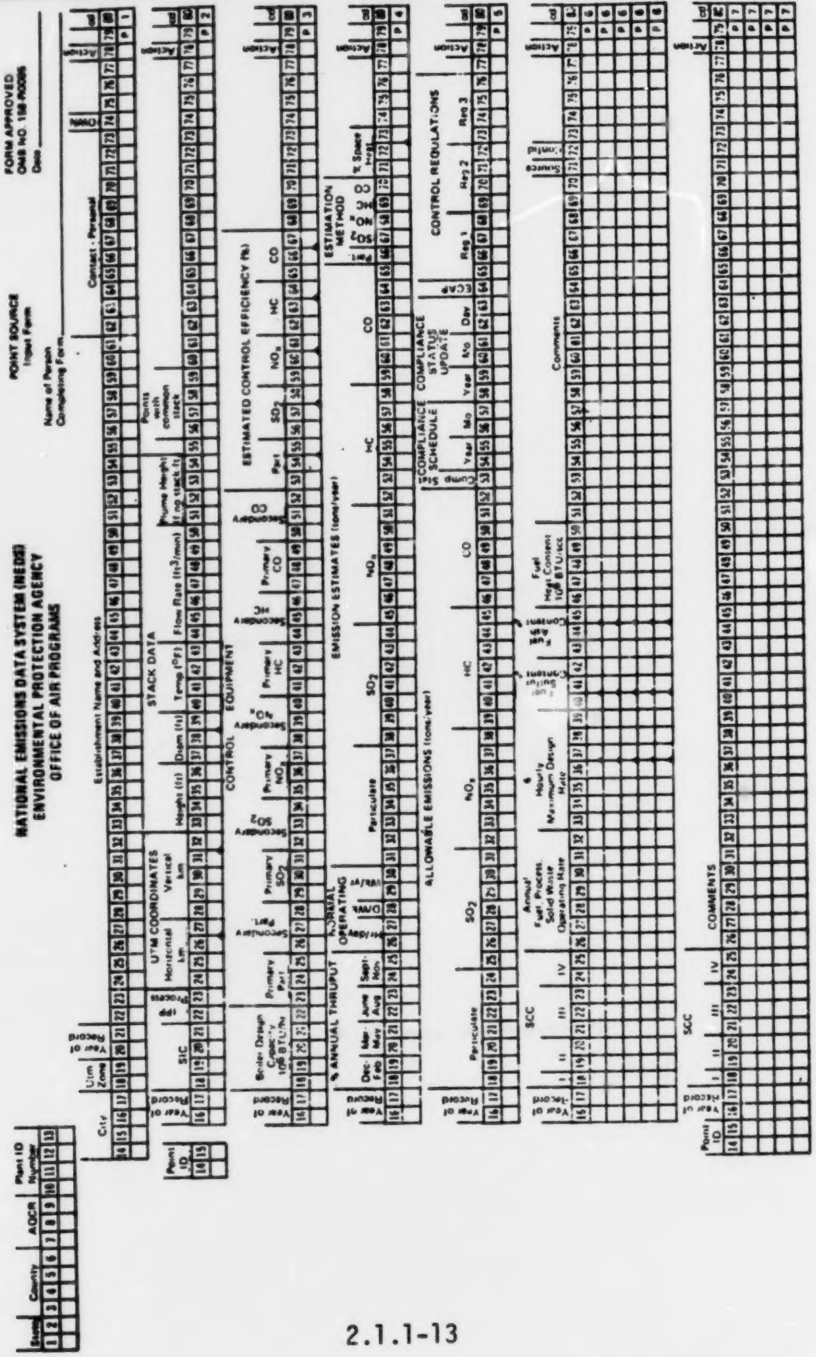
a. State
b. County
c. Plant
d. Point
e. SCC (any one of the four parts or combination thereof)
f. Ownership
g. SIC
h. Estimation method
i. AQCR
j. Point emitting more than the specified minimum of a certain pollutant

2.1.1.5.3 SORTS AVAILABLE

No sorts are available for the "Point Source Cards."

2.1.1.5.4 SAMPLE REPORT

Figure 2.1.1.e gives the format of NEDS point source cards.

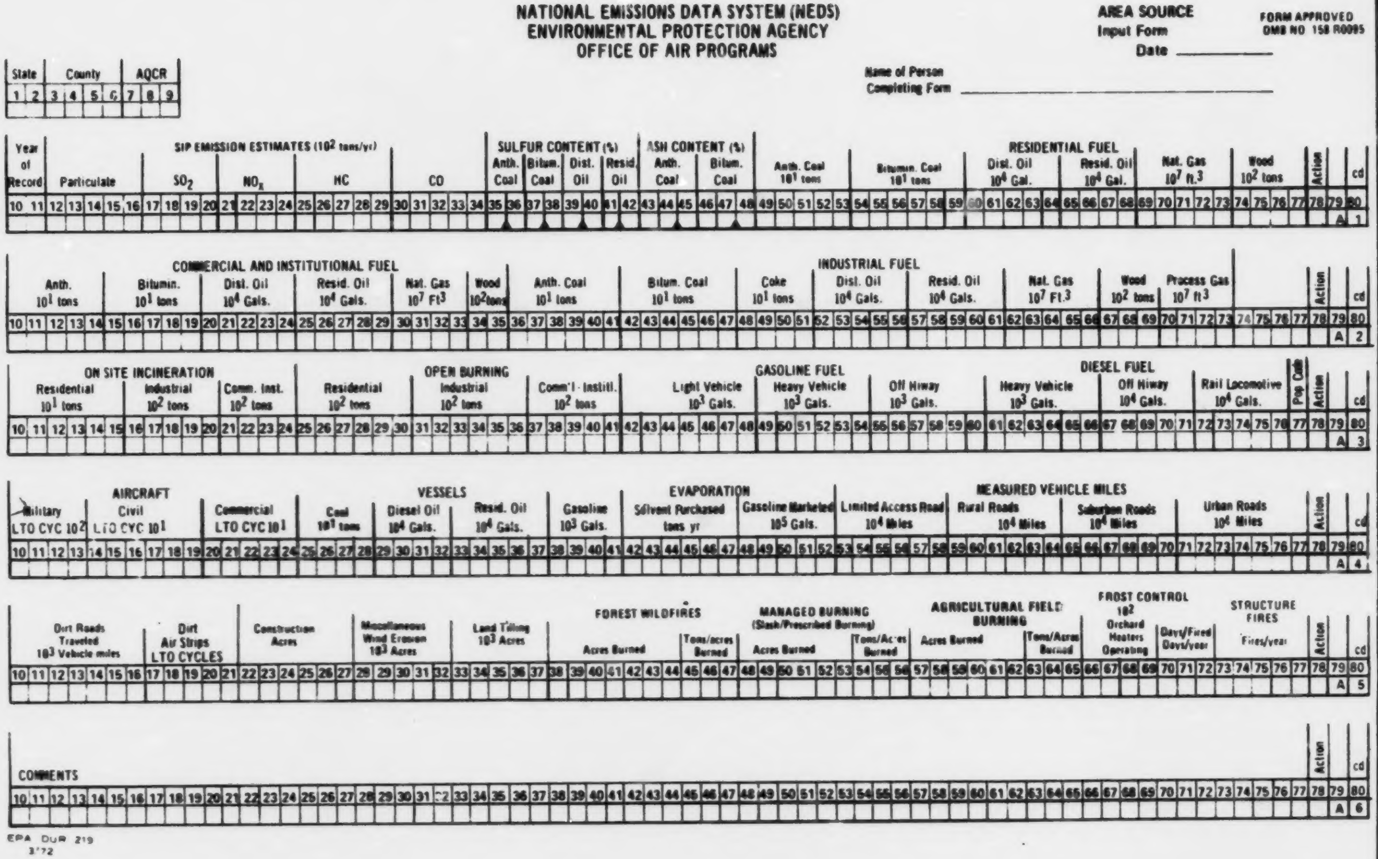


2.1.1.e. Point Source Cards Format

2.1.1.6 AREA SOURCE CARDS

2.1.1.6.1 GENERAL DESCRIPTION

The "Area Source Cards" report is similar to the "Point Source Cards" report. This report outputs selected data from NEDS onto computer cards or onto magnetic tape in the NEDS area source input format. The nation, a state, a county, or an AQCR may be retrieval keys. Figure 2.1.1.f gives the format for NEDS area source cards.



NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR PROGRAMS

AREA SOURCE
Input Form
Date ____________

FORM APPROVED
OMB NO 158 R0095

Name of Person
Completing Form ______________________

State	County	AQCR
1 2	3 4 5 6	7 8 9

	SIP EMISSION ESTIMATES (10^2 tons/yr)					SULFUR CONTENT (%)				ASH CONTENT (%)				RESIDENTIAL FUEL								
Year of Record	Particulate	SO_2	NO_x	HC	CO	Anth. Coal	Bitum. Coal	Dist. Oil	Resid. Oil	Anth. Coal	Bitum. Coal	Anth. Coal 10^1 tons	Bitumin. Coal 10^1 tons	Dist. Oil 10^4 Gal.	Resid. Oil 10^4 Gal.	Nat. Gas 10^7 ft.^{3}	Wood 10^2 tons	Action		cd
10 11	12 13 14 15 16	17 18 19 20	21 22 23 24	25 26 27 28 29	30 31 32 33 34	35 36	37 38	39 40	41 42	43 44 45	46 47 48	49 50 51 52 53	54 55 56 57 58 59	60 61 62 63 64	65 66 67 68	69 70 71 72 73	74 75 76 77	78	79	80
																			A	1

COMMERCIAL AND INSTITUTIONAL FUEL						INDUSTRIAL FUEL												
Anth. 10^1 tons	Bitumin. 10^1 tons	Dist. Oil 10^4 Gals.	Resid. Oil 10^4 Gals.	Nat. Gas 10^7 Ft^3	Wood 10^2tons	Anth. Coal 10^1 tons	Bitum. Coal 10^1 tons	Coke 10^1 tons	Dist. Oil 10^4 Gals.	Resid. Oil 10^4 Gals.	Nat. Gas 10^7 Ft.^{3}	Wood 10^2 tons	Process Gas 10^7 ft^3		Action		cd
10 11 12 13 14	15 16 17 18 19	20 21 22 23 24	25 26 27 28 29	30 31 32 33	34 35	36 37 38 39 40 41	42 43 44 45 46 47	48 49 50 51	52 53 54 55 56	57 58 59 60 61	62 63 64 65 66	67 68 69	70 71 72 73	74 75 76 77	78	79	80
																A	2

ON SITE INCINERATION			OPEN BURNING			GASOLINE FUEL			DIESEL FUEL						
Residential 10^1 tons	Industrial 10^2 tons	Comm. Inst. 10^2 tons	Residential 10^2 tons	Industrial 10^2 tons	Comm'l - Instit'l. 10^2 tons	Light Vehicle 10^3 Gals.	Heavy Vehicle 10^3 Gals.	Off Hiway 10^3 Gals.	Heavy Vehicle 10^3 Gals.	Off Hiway 10^4 Gals.	Rail Locomotive 10^4 Gals.	Pop Code	Action		cd
10 11 12 13 14 15	16 17 18 19 20	21 22 23 24	25 26 27 28 29 30	31 32 33 34 35 36	37 38 39 40 41	42 43 44 45 46 47 48	49 50 51 52 53 54	56 56 57 58 59 60	61 62 63 64 65 66	67 68 69 70 71	72 73 74 75 76	77	78	79	80
														A	3

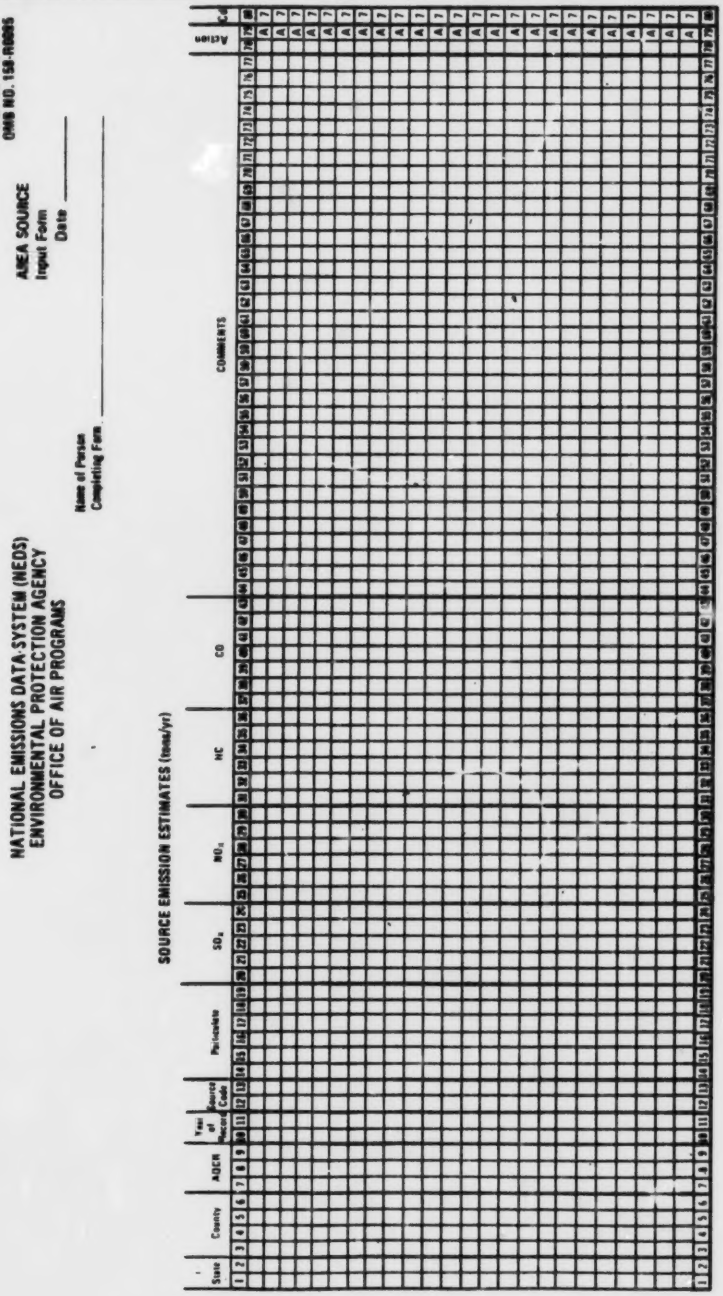
AIRCRAFT			VESSELS				EVAPORATION		MEASURED VEHICLE MILES						
Military LTO CYC 10^2	Civil LTO CYC 10^1	Commercial LTO CYC 10^1	Coal 10^1 tons	Diesel Oil 10^4 Gals.	Resid. Oil 10^4 Gals.	Gasoline 10^3 Gals.	Solvent Purchased tons yr	Gasoline Marketed 10^5 Gals.	Limited Access Road 10^4 Miles	Rural Roads 10^4 Miles	Suburban Roads 10^4 Miles	Urban Roads 10^4 Miles	Action		cd
10 11 12 13	14 15 16 17 18 19	20 21 22 23 24	25 26 27 28	29 30 31 32	33 34 35 36 37	38 39 40 41	42 43 44 45 46 47	48 49 50 51 52	53 54 55 56 57 58	59 60 61 62 63 64	65 66 67 68 69 70	71 72 73 74 75 76 77	78	79	80
														A	4

					FOREST WILDFIRES		MANAGED BURNING (Slash/Prescribed Burning)		AGRICULTURAL FIELD BURNING		FROST CONTROL 10^2		STRUCTURE FIRES			
Dirt Roads Traveled 10^3 Vehicle miles	Dirt Air Strips LTO CYCLES	Construction Acres	Miscellaneous Wind Erosion 10^3 Acres	Land Tilling 10^3 Acres	Acres Burned	Tons/acres Burned	Acres Burned	Tons/Acres Burned	Acres Burned	Tons/Acres Burned	Orchard Heaters Operating	Days/Fired Days/year	Fires/year	Action		cd
10 11 12 13 14 15 16	17 18 19 20 21	22 23 24 25 26 27	28 29 30 31 32	33 34 35 36 37	38 39 40 41 42 43 44	45 46 47	48 49 50 51 52 53	54 55 56	57 58 59 60 61 62	63 64 65	66 67 68 69	70 71 72	73 74 75 76 77	78	79	80
															A	5

COMMENTS	Action		cd
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77	78	79	80
		A	6

EPA DUR 219
3/72

Figure 2.1.1.f. Area Source Card Format



NATIONAL EMISSIONS DATA SYSTEM (NEDS)
ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF AIR PROGRAMS

AREA SOURCE
Input Form

Date ____

Name of Person Completing Form ____

FORM APPROVED
OMB NO. 158-R0095

State
County
AQCR
Year of Record
Source Code
SOURCE EMISSION ESTIMATES (tons/yr)
Particulate
SO$_x$
NO$_x$
HC
CO
COMMENTS
Action
Cd
A
7

Figure 2.1.1.f (continued). Area Source Card Format

2.1.2.1 EMISSION SUMMARY REPORT

2.1.2.1.1 GENERAL DESCRIPTION

The "Emission Summary Report" shows the annual number of tons of particulates, sulfur oxides, nitrogen oxides, hydrocarbons, and carbon monoxide emitted by SCC group within a given geographical area based on emissions as of a specific date. The emission sources included are:

- Fuel Combustion
    - Residential Fuel (Area)
    - Electric Generation (Point)
    - Industrial Fuel (Area and Point)
    - Commercial Industrial Fuel (Area and Point)
    - Internal Combustion (Point)

- Industrial Process (Point)
    - 13 Categories

- Solid Waste Disposal
    - Government (Point)
    - Residential (Area)
    - Commercial-Institutional (Area and Point)
    - Industrial (Area and Point)
    - Other (Point)

- Transportation (Area)
    - Land Vehicles
    - Aircraft
    - Vessels
    - Gas Handling Evaporative Loss

- Miscellaneous (Area)

- Other (Point)

A grand total of emissions, subdivided in area and point source emissions, is also printed.

2.1.2.1.2 RETRIEVALS AVAILABLE

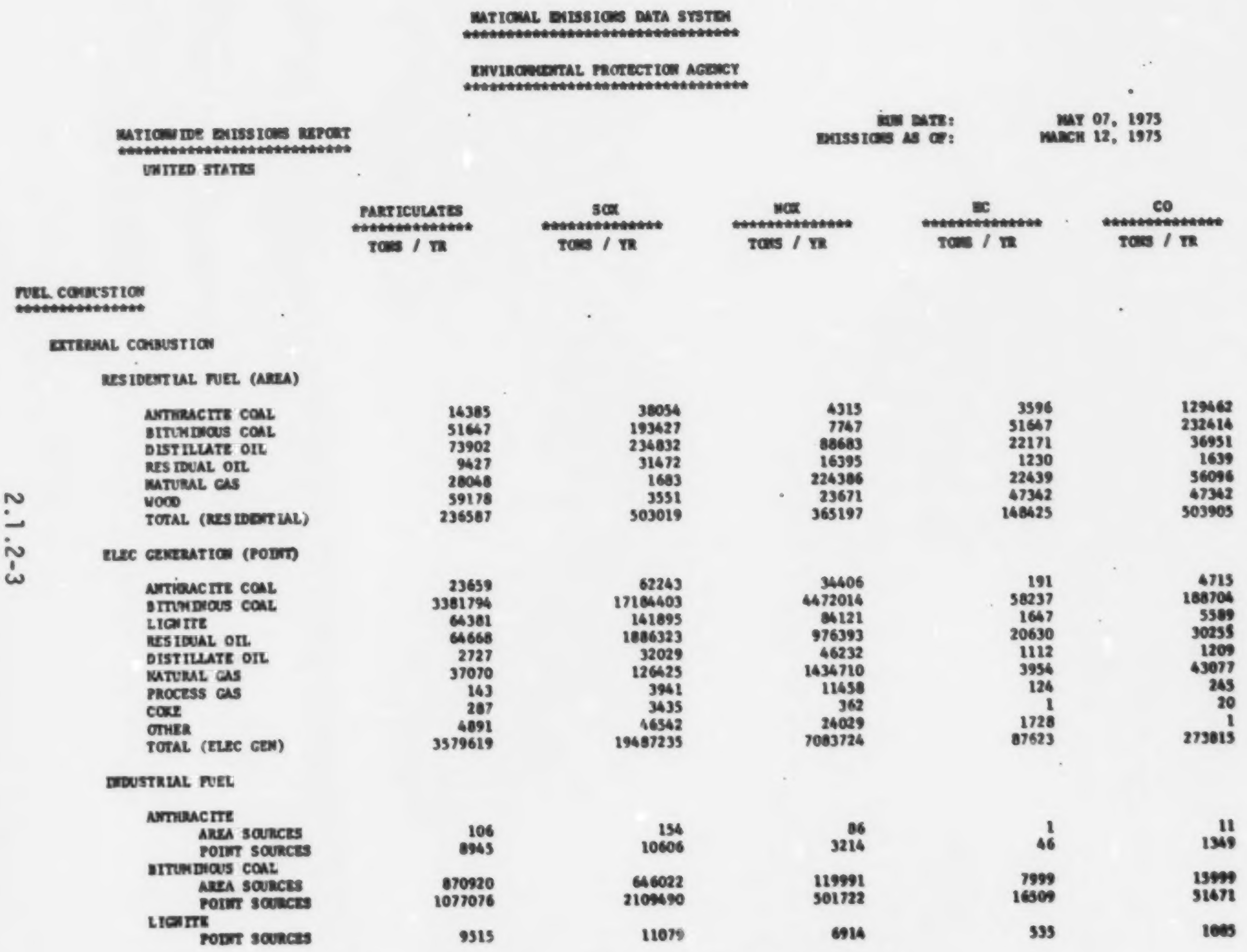
The retrieval keys for the "Emission Summary Report" are as follows:

a. Nation
b. State
c. EPA Region
d. State/County
e. AQCR
f. State portions of interstate AQCRs

2.1.2.1.3 SAMPLE REPORTS

A sample "Emission Summary Report" for the nation is represented in Figure 2.1.2.a.

The format of this report is somewhat shorter when retrieval is for an area where all categories of emissions are not present because the inactive categories will be omitted.



```
                                        NATIONAL EMISSIONS DATA SYSTEM
                                        ******************************

                                        ENVIRONMENTAL PROTECTION AGENCY
                                        *******************************

                                                                            RUN DATE:           MAY 07, 1975
NATIONWIDE EMISSIONS REPORT                                           EMISSIONS AS OF:        MARCH 12, 1975
***************************
  UNITED STATES

                              PARTICULATES         SOX              NOX              HC               CO
                              ************   ************     ************     ************     ************
                               TONS / YR       TONS / YR        TONS / YR        TONS / YR        TONS / YR

FUEL COMBUSTION
***************

  EXTERNAL COMBUSTION

     RESIDENTIAL FUEL (AREA)

        ANTHRACITE COAL            14385           38054             4315             3596           129462
        BITUMINOUS COAL            51647          193427             7747            51647           232414
        DISTILLATE OIL             73902          234832            88683            22171            36951
        RESIDUAL OIL                9427           31472            16395             1230             1639
        NATURAL GAS                28048            1683           224386            22439            56096
        WOOD                       59178            3551            23671            47342            47342
        TOTAL (RESIDENTIAL)       236587          503019           365197           148425           503905

     ELEC GENERATION (POINT)

        ANTHRACITE COAL            23659           62243            34406              191             4715
        BITUMINOUS COAL          3381794        17184403          4472014            58237           188704
        LIGNITE                    64381          141895            84121             1647             5589
        RESIDUAL OIL               64668         1886323           976393            20630            30255
        DISTILLATE OIL              2727           32029            46232             1112             1209
        NATURAL GAS                37070          126425          1434710             3954            43077
        PROCESS GAS                  143            3941            11458              124              245
        COKE                         287            3435              362                1               20
        OTHER                       4891           46542            24029             1728                1
        TOTAL (ELEC GEN)         3579619        19487235          7083724            87623           273815

     INDUSTRIAL FUEL

        ANTHRACITE
             AREA SOURCES            106             154               86                1               11
             POINT SOURCES          8945           10606             3214               46             1349
        BITUMINOUS COAL
             AREA SOURCES         870920          646022           119991             7999            13999
             POINT SOURCES       1077076         2109490           501722            16509            51471
        LIGNITE
             POINT SOURCES          9315           11079             6914              535             1085
```

Figure 2.1.2.a. Emissions Summary Report

```
RESIDUAL OIL
     AREA SOURCES            49115       401508       128126         6406         8542
     POINT SOURCES          123013       978123       394354        22252        39955
DISTILLATE OIL
     AREA SOURCES            34812        74908       139247         6962         9283
     POINT SOURCES           43885       208930       238629        11974        15766
NATURAL GAS
     AREA SOURCES            19602         1176       352837         5881        33323
     POINT SOURCES           44375        52965      1248720        20019       103419
PROCESS GAS
     AREA SOURCES               62            6          713           93            0
     POINT SOURCES           12660       120247        13686          834         8404
COKE
     POINT SOURCES            1016         1569          236            9           39
WOOD
     AREA SOURCES             1940          116          776         1552         1552
     POINT SOURCES          260243        23307       153270        37822       178234
LIQUID PETROL GAS
     POINT SOURCES             284        18610         1939           56          253
BAGASSE
     POINT SOURCES           41745            0         5731         5762         5761
OTHER
     POINT SOURCES            9620        18578         2830         2999         7929
TOTAL (INDUSTRIAL)
     AREA SOURCES           976557      1123891       741776        28895        68711
     POINT SOURCES         1632380      3553504      2571244       118815       413666

COMM-INSTITUTIONAL FUEL

ANTHRACITE COAL
     AREA SOURCES             1163         3576         1327           27          796
     POINT SOURCES            6728         2624          818           51          285
BITUMINOUS COAL
     AREA SOURCES           101876       163147        18986         4127        14859
     POINT SOURCES           57771        95089        21593         1286         3583
LIGNITE
     POINT SOURCES            3761         2607         1062           85          225
RESIDUAL OIL
     AREA SOURCES            70431       539696       183733         9187        12249
     POINT SOURCES            7740        70143        20701         1041         1382
DISTILLATE OIL
     AREA SOURCES            60783       128685       243134        12157        16209
     POINT SOURCES            1466         7342         6151          315          407
NATURAL GAS
     AREA SOURCES            12238          734       146860         9791        24477
     POINT SOURCES            5999         4971        23271         1535         3033
WOOD
     AREA SOURCES               58            3           23           46           46
     POINT SOURCES             242           81          543          271          543
LIQUID PETROL GAS
     POINT SOURCES               3            1           23            2            3
OTHER
     POINT SOURCES             114          178         4068          130           21
TOTAL (COMM-INST)
     AREA SOURCES           246549       835841       594063        35334        60636
     POINT SOURCES           83824       183036        78230         4716         9481
```

Figure 2.1.2.a (continued). Emissions Summary Report

OTHER (POINT)	1	0	0	0	0
TOTAL (EXTERNAL COMB)					
AREA SOURCES	1459693	2462751	1701036	212653	641251
POINT SOURCES	5295824	23223775	9733198	211154	696960
INTERNAL COMBUSTION (POINT)					
ELECTRIC GENERATION					
DISTILLATE OIL	3706	16144	43416	2321	5717
NATURAL GAS	683	325	24896	2064	4842
DIESEL	1590	1069	11256	1285	5955
OTHER	174	311	2782	1157	103
TOTAL (ELEC GEN)	6153	17849	82350	6826	16617
INDUSTRIAL FUEL					
DISTILLATE OIL	522	751	4686	160	288
NATURAL GAS	1835	9839	248631	43920	28582
GASOLINE	8	4	164	259	2142
DIESEL FUEL	194	301	3373	993	867
OTHER	366	40	2438	933	398
TOTAL (INDUSTRIAL)	2925	10935	259293	46265	32276
ENGINE-TESTING					
AIRCRAFT	255	126	342	573	836
OTHER	1414	0	22	0	165
TOTAL (ENG TESTING)	1669	126	364	573	1001
OTHER (POINT)	46	351	0	0	0
TOTAL (INTERNAL COMB)	10793	29261	342007	53664	49894
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	1459693	2462751	1701036	212653	641251
POINT SOURCES	5306617	23253036	10075205	264819	746854
INDUSTRIAL PROCESS (POINT) *************************					
CHEMICAL MANUFACTURING	226916	699182	173348	1569743	3939478
FOOD/AGRICULTURAL	459164	3001775	716	36809	1397
PRIMARY METAL	1631693	3619900	18119	117527	8769525
SECONDARY METALS	163021	101097	19423	3597	1228684
MINERAL PRODUCTS	3845333	795510	193996	13465	36085
PETROLEUM INDUSTRY	1037235	2990149	3284981	1029697	4412017
WOOD PRODUCTS	423309	130083	19113	21528	875357
EVAPORATION	10841	2696	1078	3197565	4431
METAL FABRICATION	2352	1069	336	1699	0
LEATHER PRODUCTS	62	27	4	438	1
TEXTILE MANUFACTURING	714	38	24	9775	2
INPROCESS FUEL	74416	63721	31154	28632	371811
OTHER/NOT CLASSIFIED	11877	17674	7765	107598	900
TOTAL (INDUSTRIAL)	7886931	11422921	3750057	6138074	19639486

Figure 2.1.2.a (continued). Emissions Summary Report

```
SOLID WASTE DISPOSAL
********************

   GOVERNMENT (POINT)

      MUNICIPAL INCINERATION          53651        8881        7199       18372      106262
      OPEN BURNING                    22665        1385        8342       44085      119517
      OTHER                             887         122         252         390        1412
      TOTAL (GOVERNMENT)              77203       10388       15794       62847      227192

   RESIDENTIAL (AREA)

      ON SITE INCINERATION            96548        1509        3017      271542      814626
      OPEN BURNING                   223367       13960       83763      418814     1186638
      TOTAL (RESIDENTIAL)            319916       15469       86780      690356     2001265

   COMMERCIAL-INSTITUTIONAL

      ON SITE INCINERATION
         AREA SOURCES                 44040       13763       16515       27525       63307
         POINT SOURCES                 1408         856        1012        1633       13252

      OPEN BURNING
         AREA SOURCES                 21716        1357        8143       40718      115366
         POINT SOURCES                 1450           1         171         345        4270
      APARTMENT
         POINT SOURCES                   24           1          10          12          21
      OTHER
         POINT SOURCES                   48           0          24           0           0
      TOTAL (COMM-INST)
         AREA SOURCES                 65756       15120       24658       68243      178674
         POINT SOURCES                 2931         858        1217        1990       17544

   INDUSTRIAL

      ON SITE INCINERATION
         AREA SOURCES                 18703        5845        7014       11689       26885
         POINT SOURCES                58317       21978       10466       65299     5168722
      OPEN BURNING
         AREA SOURCES                 17790        1112        6671       33356       94507
         POINT SOURCES                10398         334        2438       35733       40432
      AUTO BODY INCINERATION
         POINT SOURCES                  101           0           4          32          99
      OTHER
         POINT SOURCES                 3800        5741         527         274         471
      TOTAL (INDUSTRIAL)
         AREA SOURCES                 36492        6956       13685       45045      121393
         POINT SOURCES                72615       28053       13435      101337     5209723

   OTHER (POINT)                         26           0           0           0           0

   TOTAL (SOLID WASTE DISP)

      AREA SOURCES                   422164       37545      125123      803643     2301331
      POINT SOURCES                  152775       39300       30446      166174     5454459

TRANSPORTATION (AREA)
```

Figure 2.1.2.a (continued). Emissions Summary Report

```
********************

  LAND VEHICLES

      GASOLINE

          LIGHT VEHICLES                    666245        172730       5669342       8834758      52789926
          HEAVY VEHICLES                     65654         24879        706630       1835126      10304437
          OFF HIGHWAY                        19935         10633        227300        640911       7266141
          TOTAL (GASOLINE)                  751834        208043       6603272      11310795      70360504

      DIESEL

          HEAVY VEHICLES                     84754        118655       1074240        134723        610096
          OFF HIGHWAY                        49812         44576        551967         60632        155568
          RAIL                               57231        130486        847015        215188        297600
          TOTAL (DEISEL)                    191796        293717       2473222        410343       1063263

  AIRCRAFT

      MILITARY                              154806         29561         74369        360177        386626
      CIVIL                                  10266          2039          9273         45465        259800
      COMMERCIAL                              5568          8043         77957        102397        211289
      TOTAL (AIRCRAFT)                      170640         39643        161600        508038        857716

  VESSELS

      BITUMINOUS COAL                         1273          3183           191          1273          5729
      DIESEL FUEL                            18459         23074        172284         45225         60299
      RESIDUAL OIL                            4973         73692         10770           747           361
      GASOLINE                                   0          2136          9290        315644       1003551
      TOTAL (VESSELS)                        24705        102085        192535        362889       1069940

  GAS HANDLING EVAP LOSS                         0             0             0       1194082             0

  TOTAL (TRANSPORTATION)                   1138975        643488       9430630      13786146      73351424

MISCELLANEOUS (AREA)
********************

  FOREST FIRE/AGRIC BURNING                 219573             0         51664        309985       1808249
  STRUCTURAL FIRES                             538             0            54           134          1613
  SLASH BURNING                             241613             0         28425        284251        852752
  FROST CONTROL                                  7             0             0          1536           786
  SOLVENT EVAPORATION LOSS                       0             0             0       1568383             0
  TOTAL (MISCELLANEOUS)                     461731             0         80143       2164290       2663399

OTHER (POINT)                                  299           132            86           554             5
*************

GRAND TOTAL
***********

  AREA SOURCES                             3482563       3143784      11336931      16966732      78957405
  POINT SOURCES                           13346622      34715388      13855795       6569620      25840804
  TOTAL                                   16829184      37859172      25192726      23536353     104798209
```

Figure 2.1.2.a (continued). Emissions Summary Report

2.1.2.2 AREA SOURCE FUEL USAGE REPORT

2.1.2.2.1 GENERAL DESCRIPTION

The "Area Source Fuel Usage Report" presents a summary by use category of the amount of fuel used within each county requested. The use categories considered are residential, commercial-institutional, and industrial. Each use category is subdivided into fuel types. Residential and commercial-institutional fuels are divided into the following fuel types: anthracite coal, bituminous coal, distillate oil, residual oil, natural gas, and wood. In addition to the aforementioned fuel types, coke and process gas are also considered under the heading of industrial fuel.

A total of the entire amount of fuel used is printed for each state, with subtotals printed for each fuel type.

2.1.2.2.2 RETRIEVALS AVAILABLE

Retrieval is by state only.

2.1.2.2.3 SAMPLE REPORT

A sample "Area Source Fuel Usage Report" for the State of Rhode Island is presented in Figure 2.1.2.b. Although all three use categories are presented on a single page in this figure, in the actual computer output each use category starts on a new computer page.

```
                      NATIONAL EMISSIONS DATA SYSTEM (NEDS)                                   PAGE 1
                        ENVIRONMENTAL PROTECTION AGENCY                                       DATE 05/06/75

                          AREA SOURCE FUEL USAGE REPORT
                          *****************************
                                                            UPDATE DATE    WEDNESDAY          MARCH 12, 1975

STATE: RHODE ISLAND
*****
                                          RESIDENTIAL FUEL
                                          ****************

                     ANTH. COAL   BITUM. COAL   DIST. OIL     RESID. OIL    NAT. GAS    WOOD
                      10 TONS      10 TONS     10,000 GALS.  10,000 GALS.  10E7 CUFT   100 TONS
                     **********   ***********  ************  ************  *********   ********

   ***COUNTY***
BRISTOL                  15                       1034                        65          2
KENT                     63                       3346                       172          3
NEWPORT                                           2018                        64          2
PROVIDENCE              172                      13667                      1028         11
WASHINGTON               43                       1769                        62          4

   TOTAL RESIDENTIAL    293                      21834                      1389         22
                                       COMMERCIAL AND INSTITUTIONAL                                   Page 2
                                       ****************************

                     ANTH. COAL   BITUM. COAL   DIST. OIL     RESID. OIL    NAT. GAS    WOOD
                      10 TONS      10 TONS     10,000 GALS.  10,000 GALS.  10E7 CUFT   100 TONS
                     **********   ***********  ************  ************  *********   ********

   ***COUNTY***
BRISTOL                   4            3           168           380          23
KENT                     13            8           846          1896          72
NEWPORT                   9            6           402           913          48
PROVIDENCE               56           35          5138         11117         296
WASHINGTON                8            5           367           833          44

   TOTAL COMMERCIAL      90           57          6921         15139         483
                                          INDUSTRIAL FUEL                                             Page 3
                                          ***************

                     ANTH. COAL   BITUM. COAL   DIST. OIL     RESID. OIL    NAT. GAS    WOOD      COKE     PROCESS GAS
                      10 TONS      10 TONS     10,000 GALS.  10,000 GALS.  10E7 CUFT   100 TONS  10 TONS   10E7 CUFT
                     **********   ***********  ************  ************  *********   ********  *******   ***********

   ***COUNTY***
BRISTOL                               36           285           295          17
KENT                                  73          1388          1441          35
NEWPORT                               15            57            60           7
PROVIDENCE                           522          4242          4402         251
WASHINGTON                            40           132           137          19

   TOTAL INDSUTRIAL -                685          6104          6335         329

TOTAL USAGE FOR STATE -  383         743         34859         21474        2201         22
```

Figure 2.1.2.b. Area Source Fuel Usage Report

2.1.2.3 ANNUAL FUEL SUMMARY REPORT

2.1.2.3.1 GENERAL DESCRIPTION

The "Annual Fuel Summary Report" summarizes fuel use by fuel type for both point and area sources in a specific geographic area. The area source fuel use data are reported for both stationary and mobile area sources. Stationary source fuel use is further subdivided into residential, industrial, and commercial-institutional categories. Mobile source fuel use is reported for light and heavy highway vehicles (farm machinery, construction equipment, etc.) and vessels. The point source fuel use is broken down according to the kind of equipment in which the fuel is consumed--either external combustion equipment (boilers), internal combustion engines, or inprocess fuel use (dryers, furnaces, etc.). External and internal combustion categories are subdivided into electric utility, industrial, and commercial-institutional portions. Inprocess fuel use is all by industrial sources. The fuel types included are anthracite and bituminous coal, residual and distillate oil, natural gas, wood/bark, gasoline, diesel fuel, lignite coal, coke, bagasse, industrial process gas, liquified petroleum gas, jet fuel, solid waste, and liquid waste.

The date of file creation is included at the beginning of each report. Subtotals are printed for area and point sources, and a grand total is given for each fuel. Either English or metric units of measurement may be selected.

2.1.2.3.2 RETRIEVALS AVAILABLE

The retrieval keys for the "Annual Fuel Summary Report" are as follows:

a. Nation
b. State
c. County
d. AQCR

2.1.2.3.3 SAMPLE REPORT

A sample "Annual Fuel Summary Report" is presented in Figure 2.1.2.c.

```
                                  ***NEDS ANNUAL FUEL SUMMARY REPORT***
ATIONAL REPORT                                                 USER FILE CREATE DATE:  SATURDAY  DECEMBER 06, 1975

                                                               DATE OF RUN: 01/09/76
----------------------------------------------------------------------------------------------------------------------
                    ANTH COAL     BITM COAL     RESID OIL     DIST OIL      NAT GAS       WOOD/BARK     GASOLINE      DIESEL
                  ************  ************  ************  ************  ************  ************  ************  ************
                      TONS          TONS       1000 GALS     1000 GALS     1000 CUFT        TONS       1000 GALS     1000 GALS
AREA SOURCES
  STATIONARY
    RESIDENTIAL       2876940       5187340        819730      14757640       5609690       4673800
    INDUSTRIAL          11440      16122180       4271170       4649110       3967620        157500
    COMM-INSTL         265380       4122730       5919150       7510250       2446390          4760
  MOBILE
    LIGHT VEHICLE                                                                                        83667348
    HEAVY VEHICLE                                                                                         7850729       7699684
    RAILROAD                                                                                                            4573060
    OFF-HIGHWAY                                                                                           3741866       2996860
    VESSELS            127310                      512680                                                  687196       1547790
------------------------------------------------------------------------------------------------------------------------------
    AREA TOTAL        3281070      25432250      11422730      26917000      12023700       4836000      95947139      16817394

POINT SOURCES
  EXT COMB
    ELEC GEN          4241402     386863097      20377090        960520       4257339        452710
    INDUSTRIAL         665326      51658754       8536821       2768187       4553493      33949879
    COMM-INSTL          97274       3017785        599386        231915       9842916        134915

  INPROCESS            373726       5109129       1272564       1780252       3618379        978971

  INTERNL COMB
    ELEC GEN                                                    1070042        398225                                     70593
    INDUSTRIAL                                         13         33012       1215881                        2061         91710
    COMM-INSTL

    POINT TOTAL       5377726     446648765      30885874       6749936      23974193      35116275          2061        162303

  GRAND TOTAL         8650793     472081015      42308604      33666936      35997893      39952275      95949200      16979697

                    LIGNITE       COKE          BAGASSE       PROCESS GAS   LIQ-PETRO     JET FUEL      SOLID WASTE   LIQUID WASTE
                  ************  ************  ************  ************  ************  ************  ************  ************
                      TONS          TONS          TONS       1000 CUFT     1000 GALS     1000 GALS        TONS       1000 GALS

POINT SOURCES
  EXT COMB
    ELEC GEN          8019397         40172                        40564
    INDUSTRIAL        1142527        108042       7520107       2088499        279285                      201219
    COMM-INSTL         161511                                                    4949

  INPROCESS                         2939071                    10576555         45581

  INTERNL COMB
    ELEC GEN                                                                                    699
    INDUSTRIAL                                                                                  137
    COMM-INSTL

    GRAND TOTAL       9322435       3087935       7520107      12705943        329819           836        201219
```

Figure 2.1.2.c. Annual Fuel Summary Report

2.1.2.4 PLANT EMISSION SUMMARY REPORT

2.1.2.4.1 GENERAL DESCRIPTION

The "Plant Emission Summary Report" lists the name, identifying geographic data, and criteria pollutant emissions for each plant in the region requested. For each of the five criteria pollutants, emission totals are printed, as well as subtotals for fuel combustion and process emissions. If the emissions totals are different from the sum of fuel combustion and process emissions, the difference is the plant solid waste emissions.

2.1.2.4.2 RETRIEVALS AVAILABLE

The retrieval keys for the "Plant Emission Summary Report" are nation, state, state/county, and AQCR.

2.1.2.4.3 SORTS AVAILABLE

The "Plant Emission Summary Report", if selected by nation, state, or state/county, can be sorted by state/county/plant codes. If selected by AQCR, the sort is by descending order of pollutant emission for any one of the five criteria pollutants.

2.1.2.4.4 SAMPLE REPORT

A sample page from the "Plant Emission Summary Report" retrieved for the Air Quality Control Region of Metropolitan Providence is presented in Figure 2.1.2.d.

```
                                     ***PLANT EMISSIONS REPORT (TONS/YR)***              UPDATE DATE    FRIDAY    JANUARY 16, 1975
STATE COUNTY PLANT AQCR                  PLANT NAME AND ADDRESS                        PART        SO2        NOX        HC         CO
***** ****** ***** ****                  **********************                        ****        ***        ***        **         **

  22    2121  0061  120  NEW ENGLAND POWER-BRAYTON PT, SOMERSET    PROC                    0          0          0          0          0
                                                                   COMB                 1050      63401      21201        404        606
                                                                   TOT                  1050      63401      21201        404        606

  41    0320  0042  120  PROVIDENCE INCINERATOR, PROVIDENCE        PROC                    0          0          0          0          0
                                                                   COMB                    0          0          0          0          0
                                                                   TOT                   900         75         60         45       1050

  22    2121  0054  120  CANAL ELECTRIC, SANDWICH                  PROC                    0          0          0          0          0
                                                                   COMB                  650      30998       8531        163        244
                                                                   TOT                   650      30998       8531        163        244

  22    2121  0060  120  MONTAUP ELECTRIC CO, SOMERSET             PROC                    0          0          0          0          0
                                                                   COMB                  577      24129       7576        144        216
                                                                   TOT                   577      24129       7576        144        216
```

Figure 2.1.2.d. Plant Emission Report

2.1.2.5 SCC EMISSIONS REPORT

2.1.2.5.1 GENERAL DESCRIPTION

For each state, the "SCC Emission Report" prints one line listing the total emissions in tons per year for each of the five criteria pollutants by county number and SCC category. The update date and the number of sources included in each SCC category in each county are also included.

2.1.2.5.2 RETRIEVALS AVAILABLE

The "SCC Emission Report" may be retrieved either by nation or by state.

2.1.2.5.3 SAMPLE REPORT

A sample "SCC Emission Report" for the first few counties of Alabama is presented in Figure 2.1.2.e.

```
                         *****SCC EMISSIONS REPORT (TONS/YR)*****      UPDATE DATE:    SUNDAY     JUNE 15, 1975

STATE: 01                      SCC   FREQ          PART           SO2            NOX           HC            CO
*****                          ***   ****          ****           ***            ***           **            **

              ***COUNTY***
                 0240      10200401 (001)           6.3        2,994.3           0.0           0.0           0.0
                           10200601 (001)           5.1            8.1           0.0           0.0           0.0
                           10200902 (001)         967.6        1,029.6           0.0           0.0           0.0
                           30700103 (001)           0.0            0.0           0.0           0.0           0.0
                           30700104 (001)         110.0          815.5           0.0           0.0           0.0
                           30700105 (001)          17.0            0.0           0.0           0.0           0.0
                           30700106 (001)         140.0            0.0           0.0           0.0           0.0
                           30700107 (001)           0.0            0.0           0.0           0.0           0.0
                           30900199 (001)         278.0            0.0           0.0           0.0           0.0
                           39000499 (001)           0.0            0.0           0.0           0.0           0.0
                           39000503 (001)           0.0            0.0           0.0           0.0           0.0
                           39000603 (001)           0.0            0.0           0.0           0.0           0.0
                 0260      30500201 (001)          30.6            0.0           0.0           0.0           0.0
                           50300105 (002)          33.0            0.3          23.0          48.0         438.0
                 0280      30300001 (001)          18.0            0.0           0.0           0.0           0.0
                           30500501 (001)         337.1            0.0           0.0           0.0           0.0
                           30500502 (001)       7,200.0            0.0           0.0           0.0           0.0
```

Figure 2.1.2.e. SCC Emissions Report

2.1.2.6 PLANT NAME REPORT

2.1.2.6.1 GENERAL DESCRIPTION

The "Plant Name Report" gives one line of information concerning each plant requested. Included are plant ID, plant name, plant contact, a count of points and SCC's, UTM coordinates, and the plant comment field.

2.1.2.6.2 RETRIEVALS AVAILABLE

The retrievals available for the "Plant Name Report" are the same as those for the "Point Source Report."

2.1.2.6.2 SORTS AVAILABLE

The same sorts are available for the "Plant Name Report" as for the "Point Source Report." The printout of the former, however, has a page break on county so that it is desirable to begin each sort selected with state/county. The two sorts recommended for use with the "Plant Name Report" are:

State/County/Plant Name/Plant ID/Point ID/SCC
State/County/Plant ID/Point ID/SCC

The first step is an alphabetical ordering by plant name and the second a numerical ordering by plant ID. If one of the above sorts is not used, the plant name may appear several times and the SCC count may be incorrect.

2.1.2.6.4 SAMPLE REPORT

A sample "Plant Name Report" for the State of Rhode Island and the County of Providence is presented in Figure 2.1.2.f--sorted by plant name.

```
FILE CREATED ON WEDNESDAY          MARCH 12, 1975                                              PAGE 41-0001

                                     N A T I O N A L   E M I S S I O N S   D A T A   S Y S T E M

                     PLANT NAME LISTING FOR ALL PLANTS WITH SCC EMITTING >OR =            0 TONS PER YEAR OF PARTICULATE

STATE (41):  RHODE ISLAND                    COUNTY (0320): PROVIDENCE CO

PLANT                                               PLANT     COUNT OF    UTM      COORD    P L A N T
 ID    P L A N T     N A M E                       CONTACT     PT SCC      X         Y              C O M M E N T

0016 BACCALA & SONS,100 ARMENTO ST,JOHNSTON        R.BACCALA      1   1    293.8    4636.0
0011 BIRD & SON, DEXTER ROAD,PHILIPSDALE,E PROVD   R.WILLIAMS     2   2    303.3    4634.2
0025 BLACKSTONE VALLEY PWR PLANT, PAWTUCKET        MR.STEELMACH  12  12    302.3    4637.5
0022 BRANCH RIVER WOOL,GREAT RD,N.SMITHFIELD       G.WARLOP       3   3    288.7    4657.4
0033 BROWN UNIVERSITY, PROVIDENCE                   MR REMY       1   3    300.5    4632.9
0032 BROWN&SHARPE,WATERMAN AVE,PROVIDENCE          GREENSLADE     1   2    299.0    4633.6
```

Figure 2.1.2.f. Plant Name Report

2.1.2.7 EMISSIONS/AIR QUALITY REPORT

2.1.2.7.1 GENERAL DESCRIPTION

The "Emissions/Air Quality Report" presents AQCR emissions and air quality data in the same report. The report heading includes the NEDS date of creation, the AQCR population and land area, and the priority of the AQCR for each of the five criteria pollutants. The report is then divided into two tables.

First, the total emissions in tons per year are printed for each of the five criteria pollutants, along with point source and area source emission subtotals. Then, in the air quality table, a line is printed giving air quality data for each of the years requested. These data include the number of stations used, the time intervals measured, the maximum value, and the maximum arithmetic or geometric mean for each of the five criteria pollutants.

2.1.2.7.2 RETRIEVALS AVAILABLE

Retrievals by AQCR are available for the year span requested.

2.1.2.7.3 SORTS AVAILABLE

The output is sorted in the same sequence as requested.

2.1.2.7.4 SAMPLE REPORT

A sample "Emissions/Air Quality Report" for the AQCR, Metropolitan Providence, is presented in Figure 2.1.2.g.

```
DATE: 05-07-75                                     EMISSION/AIR QUALITY REPORT FOR                                      PAGE    1
                                                   AQCR(120):METROPOLITAN PROVIDENCE

                                                   NEDS DATA OF CREATION : WEDNESDAY     MARCH 12, 1975
                                                   AQCR POPULATION (1970 CENSUS):   1,645,380
                                                   LAND AREA OF AQCR:       989  SQ-MILES.

                        PARTICULATE     SULFUR OXIDES     NITROGEN OXIDES      HYDROCARBONS       CARBON MONOXIDE      OZONE OR TOTAL OX

PRIORITY OF AQCR            1                 1                  1                                       1                     1

EMISSIONS (TONS/YEAR)
---------------------

 POINT SOURCES            9,650          161,171             56,241              5,016              17,281
 AREA SOURCES            15,284           32,595             78,967            143,657             613,334

 TOTAL SOURCES           24,934          193,766            135,208            148,673             630,615

-------------------------------------------------------------------------------------------------------------------------------------
AIR QUALITY   TOTAL SUSP PART  :   SULFUR DIOXIDE   :  NITROGEN DIOXIDE  :  TOTAL HYDROCARBONS  :   CARBON MONOXIDE   :  OZONE OR TOTAL OX
-----------:      UG/M**3      :      UG/M**3       :      UG/M**3       :       UG/M**3        :       MG/M**3       :       UG/M**3
           :                   :                    :                    :                      :                     :
           :NO  MAX   I MAX   I:NO  MAX   I MAX    I:NO  MAX   I MAX    I:NO  MAX     I MAX    I:  NO  MAX   I MAX    I:  NO  MAX   I MAX    I
   YEAR    :STA VALUE N GEP   N:STA VALUE N ARITH  N:STA VALUE N ARITH  N:STA VALUE   N N ARITH N:  STA VALUE N ARITH  N:  STA VALUE N ARITH  N
           :          T MEAN  T:          T MEAN   T:          T MEAN   T:            T   MEAN  T:            T MEAN   T:            T MEAN   T
   1957    : 1   253 7   112 7:  0    0         0 :  0    0         0 :  0    0           0 :  0    0          0 :  0    0          0
   1958    : 3   301 7   124 7:  0    0         0 :  0    0         0 :  0    0           0 :  0    0          0 :  0    0          0
   1959    : 6   284 7    89 7:  0    0         0 :  0    0         0 :  0    0           0 :  0    0          0 :  0    0          0
```

Figure 2.1.2.g. Emission/Air Quality Report

2.1.3.1 PLANT-POINT-SCC COUNT REPORT

2.1.3.1.1 GENERAL DESCRIPTION

The "Plant-Point-SCC Count Report" is available on a nationwide basis only. For each "state" this report lists the state code, state name, and total number of plants, plant-points, and plant-point-SCCs. The "states" themselves are listed in ascending numerical order according to state code number. A grand total of plants, plant-points, and plant-point-SCCs is printed at the end. A sample "Plant-Point-SCC Count Report" is presented in Figure 2.1.3.a.

```
05/07/75                              NATIONAL EMISSIONS DATA SYSTEM                                        PAGE:   1

ST   STATE                  TOTAL NUMBER          TOTAL NUMBER        TOTAL NUMBER
NO                             PLANTS             PLANT-POINTS       PLANT-POINT-SCC
-----------------------------------------------------------------------------------------------------------------------
01   ALABAMA                        361                  1,736                2,769
02   ALASKA                         178                    267                  410
03   ARIZONA                        361                    589                1,201
04   ARKANSAS                       236                    689                  813

     GRAND TOTAL                 30,127                 83,202              108,238
```

Figure 2.1.3.a. Plant-Point-SCC Count Report

2.1.3.2 MISSING ITEM REPORT

2.1.3.2.1 GENERAL DESCRIPTION

The "Missing Item Report" is a point source inventory of missing data items. Seven geographical summarization types are available. They are as follows:

a. National
b. State
c. State/County
d. AQCR
e. State/AQCR
f. State/County/Plant
g. State/County/Plant/Point

This report presents a count of the missing items according to the summarization type requested. Any data can be selected to be summarized based on the point source selection capability. After the data are selected, they can be summarized using any of the above report types. For example, all boilers could be selected and summarized by state to determine the number of boilers and data available for boilers. In addition to totals for the number of plants, points and SCCs present, totals are printed to indicate the confidentiality status of processes and plants.

Figure 2.1.3.b is a "Missing Item Report" for the State of Massachusetts.

```
                          NATIONAL EMISSIONS DATA SYSTEMS                          PAGE: 1

                          POINT SOURCE INVENTORY - INCOMPLETE DATA ITEMS
                                                  FILE CREATED ON:  WEDNESDAY           MARCH 12, 1975
DATE:      MAY 08, 1975
STATE (22) :  MASSACHUSETTS

                                       MISSING DATA ITEMS
                        THE COUNTS BELOW APPLY TO CORRESPONDING DATA FIELDS
                        FOR EACH NEDS POINT SOURCE FORM SUBMITTED FOR THIS
                        GEOGRAPHICAL AREA.  THERE ARE     1418 POINTS REPORTING
                        IN THIS AREA.
  DATA ITEM                 # MISSING   DATA ITEM              # MISSING   DATA ITEM                # MISSING

  CARD #1                               CARD #4                            CARD #5
   YEAR OF RECORD                0       YEAR OF RECORD             0       YEAR OF RECORD               0
   CITY                          1       ANNUAL THROUGHPUT                  ALLOWABLE  EMISS.
   UTM ZONE                      1        DEC-FEB                  22         PART.                    611
   NAME AND ADDRESS              0        MAR-MAY                  22         SOX                      542
   CONTACT-PERSONAL             11        JUNE-AUG                 23         NOX                      733
   OWNERSHIP                     6        SEPT-NOV                 23         HC                       733
  CARD #2                                NORMAL OPERATING                     CO                       733
   YEAR OF RECORD                0        HOURS/DAY                25       COMPL. STATUS              731
   SIC                           0        DAYS/WEEK                23       COMPL. SCHEDULE
   UTM-HORIZONTAL               24        WEEKS/YEAR               25         YEAR                     732
   UTM-VERTICAL                 24       EMISSION ESTIMATE                    MONTH                    732
   STACK DATA                             PART.                   267       COMPL. STATUS UPD.
    HEIGHT                       3        SOX                     298         YEAR                     733
    DIAMETER                     2        NOX                     322         MONTH                    733
    TEMPERATURE                  8        HC                      307         DAY                      733
    FLOW RATE                    0        CO                      312       ECAP                       740
    PLUME HEIGHT                 1       ESTIMATION METHOD                 CARD #6
   CARD #3                                PART.                     7        YEAR OF RECORD              0
    YEAR OF RECORD               0        SOX                      15        OPERATING RATE             70
    BOILER DESIGN CAP            0        NOX                      39        MAX. DESIGN RATE         1355
    CONTROL EQUIPMENT            0        HC                       37        SULFUR CONTENT              3
     PRIMARY PART.               0        CO                       31        ASH CONTENT                 8
     SECONDARY PART.             0       % SPACE HEAT               6        HEAT CONTENT                5
     PRIMARY SOX                 0                                           SOURCE                      1
     SECONDARY SOX               0
     PRIMARY NOX                 0              NUMBER OF PLANTS IN NEDS:                                  896
     SECONDARY NOX               0              NUMBER OF POINTS WITHIN THE PLANTS ABOVE:                 1418
     PRIMARY HC                  0              NUMBER OF PROCESSES(SCC'S) WITHIN THE POINTS ABOVE:       1642
     SECONDARY HC                1
     PRIMARY CO                  0
     SECONDARY CO                0              CONFIDENTIALITY STATUS:
    EST. CONTROL EFF.                           NUMBER OF PROCESSES DESIGNATED CONFIDENTIAL:                 0
     PART.                       0              NUMBER OF PROCESSES DESIGNATED NON CONFIDENTIAL:          1642
     SOX                         0              NUMBER OF PROCESSES WITH CONFIDENTIALITY UNKNOWN:            0
     NOX                         0              NUMBER OF PLANTS WITH CONFIDENTIAL PROCESSES:                0
     HC                          3
     CO                          0
```

Figure 2.1.3.b. Missing Item Report

2.1.3.3 HIGHEST PLANT NUMBER BY COUNTY REPORT

2.1.3.3.1 GENERAL DESCRIPTION

The "Highest Plant Number by County Report" gives the number of the last plant updated in each county and thus the last included in the NEDS file. The counties are listed in alphabetical order by state; the states themselves are listed in ascending order of state code. In each case, the state and county code numbers are provided in addition to their names. The output from this report is used to assist in assigning new plant numbers. Figure 2.1.3.c presents that portion of the "Highest Plant Number by County Report" for the first seven counties in the State of Alabama.

```
FILE CREATED ON  TUESDAY          APRIL 15, 1975

              N A T I O N A L   E M I S S I O N S   D A T A   S Y S T E M
                   S O U R C E   I N V E N T O R Y

              H I G H E S T  P L A N T  N U M B E R  B Y  C O U N T Y


               STATE              COUNTY                              PLANT  ID

              ALABAMA            AUTAUGA                         01  0240  0002
                                 BALDWIN                         01  0260  9007
                                 BARBOUR                         01  0280  0013
                                 BIBB                            01  0360  0007
                                 BLOUNT                          01  0400  0002
                                 BULLOCK                         01  0520  9004
                                 BUTLER                          01  0540  9001
```

Figure 2.1.3.c. Highest Plant Number by County Report

The SOTDAT System is one of the newer members of AEROS. It was designed to store and retrieve relevant technical data acquired during the performance of stack tests or other methods of measuring pollutant emissions from point sources.

The original purpose of SOTDAT was to provide an automated means of updating and improving emission factors for specific Source Classification Codes (SCC's) in the NEDS Emission Factor File, and this remains its principal use although other applications have been added recently.

2.2.1.1 LISTING OF COMPLETE SOTDAT FILE

2.2.1.1.1 GENERAL DESCRIPTION

The type of information stored in the SOTDAT file and the input form are shown in Figure 2.2.1.a. The output of this report consists of a full listing of the SOTDAT Master File. The report can also be produced by using the update information that is generated each time new data are to be introduced into the SOTDAT system. Most of the codes used in the SOTDAT input and output procedures are derived, either directly or with some modification, from the appropriate NEDS and SAROAD codes as given in Volume V of the AEROS Manual. Some instructions developed for the SOTDAT system are described in greater detail in Volume II.

The form of the report may be seen by referring to Figure 2.2.1.b. It should be noted that it is quite easy to develop program modifications of this report because a considerable degree of flexibility was built into the system. Thus, although the example shows a two-page report with a given format, additional formats are under development.

2.2.1.1.2 RETRIEVALS AVAILABLE

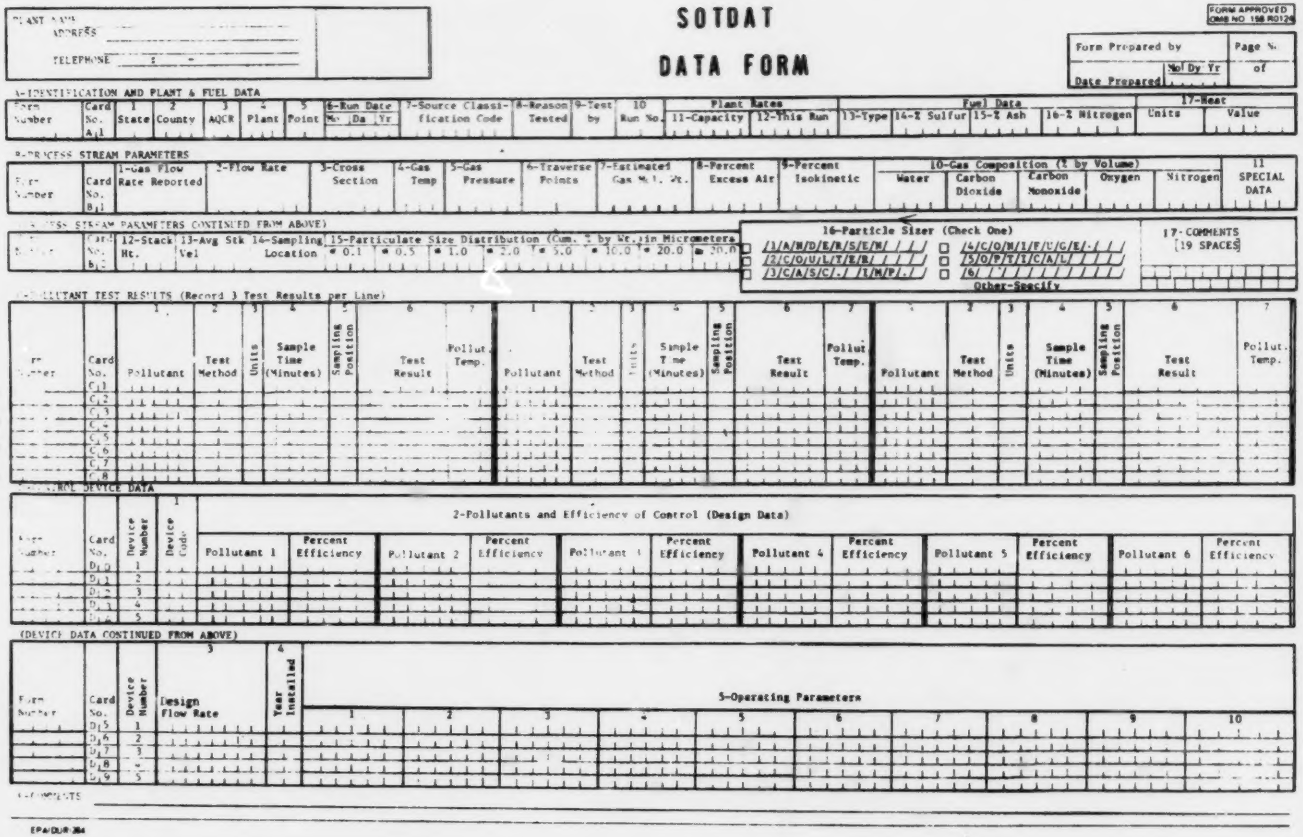
The report is a listing of the entire contents of the file accessed, whether this be the SOTDAT Master File or the update file. Thus, no options for retrieval are available.

2.2.1.1.3 SORTS AVAILABLE

No optional sorts are available to the user.

2.2.1.1.4 SAMPLE REPORT

Figure 2.2.1.b shows a portion of the full SOTDAT file listing.



FORM APPROVED
OMB NO 158 R0124

SOTDAT
DATA FORM

PLANT NAME
ADDRESS
TELEPHONE ( ) -

Form Prepared by
Date Prepared Mo Dy Yr
Page No. of

A-IDENTIFICATION AND PLANT & FUEL DATA

Form Number	Card No.	1 State	2 County	3 AQCR	4 Plant	5 Point	6-Run Date Mo Da Yr	7-Source Classification Code	8-Reason Tested	9-Test by	10 Run No.	Plant Rates 11-Capacity	Plant Rates 12-This Run	Fuel Data 13-Type	Fuel Data 14-% Sulfur	Fuel Data 15-% Ash	Fuel Data 16-% Nitrogen	17-Heat Units	17-Heat Value
	A 1																		

B-PROCESS STREAM PARAMETERS

Form Number	Card No.	1-Gas Flow Rate Reported	2-Flow Rate	3-Cross Section	4-Gas Temp	5-Gas Pressure	6-Traverse Points	7-Estimated Gas Mol. Wt.	8-Percent Excess Air	9-Percent Isokinetic	10-Gas Composition (% by Volume) Water	Carbon Dioxide	Carbon Monoxide	Oxygen	Nitrogen	11 SPECIAL DATA
	B 1															

(PROCESS STREAM PARAMETERS CONTINUED FROM ABOVE)

Form Number	Card No.	12-Stack Ht.	13-Avg Stk Vel	14-Sampling Location	15-Particulate Size Distribution (Cum. % by Wt. in Micrometers) ≤ 0.1	≤ 0.5	≤ 1.0	≤ 2.0	≤ 5.0	≤ 10.0	≤ 20.0	≥ 20.0
	B 2											

16-Particle Sizer (Check One)
☐ /1/A/N/D/E/R/S/E/N/ / / / ☐ /4/C/O/N/I/F/U/G/E/./ / /
☐ /2/C/O/U/L/T/E/R/ / / / / ☐ /5/O/P/T/I/C/A/L/ / / / /
☐ /3/C/A/S/C/./ /I/M/P/./ ☐ /6/ / / / / / / / / / / /
Other-Specify

17-COMMENTS
[19 SPACES]

C-POLLUTANT TEST RESULTS (Record 3 Test Results per Line)

Form Number	Card No.	1 Pollutant	2 Test Method	3 Units	4 Sample Time (Minutes)	5 Sampling Position	6 Test Result	7 Pollut. Temp.	1 Pollutant	2 Test Method	3 Units	4 Sample Time (Minutes)	5 Sampling Position	6 Test Result	7 Pollut. Temp.	1 Pollutant	2 Test Method	3 Units	4 Sample Time (Minutes)	5 Sampling Position	6 Test Result	7 Pollut. Temp.
	C 1																					
	C 2																					
	C 3																					
	C 4																					
	C 5																					
	C 6																					
	C 7																					
	C 8																					

D-CONTROL DEVICE DATA

Form Number	Card No.	Device Number	1 Device Code	2-Pollutants and Efficiency of Control (Design Data) Pollutant 1	Percent Efficiency	Pollutant 2	Percent Efficiency	Pollutant 3	Percent Efficiency	Pollutant 4	Percent Efficiency	Pollutant 5	Percent Efficiency	Pollutant 6	Percent Efficiency
	D 0	1													
	D 1	2													
	D 2	3													
	D 3	4													
	D 4	5													

(DEVICE DATA CONTINUED FROM ABOVE)

Form Number	Card No.	Device Number	3 Design Flow Rate	4 Year Installed	5-Operating Parameters 1	2	3	4	5	6	7	8	9	10
	D 5	1												
	D 6	2												
	D 7	3												
	D 8	4												
	D 9	5												

E-COMMENTS

EPA/DUR 284

Figure 2.2.1.a. SOTDAT Input Data Format

```
   SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM


   COMPLETE SOTDAT FILE


   SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM

STATE   COUNTY   AQCR   PLANT   POINT     SCC.    RUN-DATE   REASON   TEST-BY   RUN-NO.   SAMP-LOCATION
  34     0880     170    0052          30102302    051673       1        7         01           1

                  PLANT-ADDRESS                                                                         FORM-NUMBER
KAISER AGRICULTURAL CHEMICALS 1NC.,  RIEGELWOOD  NC                                                        A00305

   (METERS)     .....SCC UNITS.....
STACK-HEIGHT   PLANT-CAPACITY  RUNRATE      F-TYPE   % - SULFUR   % - ASH   % - NITROGEN   HEAT-UNIT-VALUE
         .00            .000  0000036.000     C             .00       .00            .00              .000

SPECIAL-COMMENTS              SPECIAL-DATA

                             (SCM)                           (CM HG)        (DEG C)                        (M/SEC)
FLOW-UNITS   FLOW-RATE   CROSS-SECTION   TRAVERSE-POINTS   GAS-PRESSURE   TEMPERATURE   MOL. WEIGHT   AVERAGE-STACK-VEL.
            00003320.00  0    0.455            48             76.070       0033.0         028.820         4.230

% EXCESS-AIR     % ISOKINETIC     % WATER     % CO2     % CO1     % OXYGEN     % NITROGEN
        .000          101.000       04.00     00.00     00.00       20.70        79.70

                 PARTICULATE SIZE DISTRIBUTION (MICROMETERS)
LESS THAN   3.1   0.2   1.0   2.0   5.0   10.0   20.0   GT20   PARTICLE SIZER
             .0    .0    .0    .0    .0     .0     .0     .0
```

Figure 2.2.1.b. Full Listing of the SOTDAT File

```
POLLUTANT    TEST-METHOD    POL UNIT    SAMPLE-TIME    SAMPLING-POSITION    POL TEMP    TEST-RESULT
  A11010         10            0          00113.00             0              030.0     00     .09494
  B11010         10            0          00113.00             0              030.0     00     .06211
                 10            @               .00             @                 .0            .00000
  C00000         00            0          00000.00             0              000.0     000000.00000
  D00000         00            0          00000.00             0              000.0     000000.00000

DEVICE - :    DEVICE-CODE    DESIGN-FLOW-RATE    YEAR-INSTALLED
    0             000        00000000.0000000          00
    0             000        00000000.0000000          00

DEVICE - :  POLL-1 EFFCY  POLL-2 EFFCY  POLL-3 EFFCY  POLL-4 EFFCY  POLL-5 EFFCY  POLL-6  EFFCY
    0       000000 00.00  000000 00.00  000000 00.00  000000 00.00  000000 00.00  000000 00.00
    0       000000 00.00  000000 00.00  000000 00.00  000000 00.00  000000 00.00  000000 00.00

DEVICE - :  OP-PARM1  OP-PARM2  OP-PARM3  OP-PARM4  OP-PARM5  OP-PARM6  OP-PARM7  OP-PARM8  OP-PARM9  OP-PARM10
    0       000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00
    0       000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00 000000.00

                                            COMMENTS

        ANALYZED BY E.P.A.
```

Figure 2.2.1.b (continued). Full Listing of the SOTDAT File

2.2.1.2 LISTING OF SOTDAT FILE BY SPECIFIED SCC

2.2.1.2.1 GENERAL DESCRIPTION

The format of this report is identical to that of the report previously described - the complete SOTDAT Master File Listing (see 2.2.1.1). This report, however, includes data only for those Source Classification Codes (SCC) specified in the request. Up to 25 SCC's may be specified. All of the plants and points pertaining to a given SCC are grouped together in the report, followed by those for the next SCC, and so on. Other output formats are being developed to assist the user.

2.2.1.2.2 RETRIEVALS AVAILABLE

As explained above, this report is retrieved by SCC. No optional retrievals are available.

2.2.1.2.3 SORTS AVAILABLE

The report is sorted by SCC. Within SCC, the sort is by State, County, Plant, Point, and Run Number. No optional sorts are available.

2.2.1.2.4 SAMPLE REPORT

The report format is identical to that of the SOTDAT Master File Listing, which is shown in Figure 2.2.1.b.

2.2.1.3 NAME, ADDRESS, AND FORM NUMBERS FOR EACH PLANT ON FILE

2.2.1.3.1 GENERAL DESCRIPTION

This report lists the names, addresses, telephone numbers, and NEDS source identification codes of all plants in the entire SOTDAT file. For each plant, the SOTDAT Form Numbers are listed in order. The overall sequencing is by NEDS ID number. If one or more point numbers exist for a given plant, that information will also appear in the printout.

2.2.1.3.2 RETRIEVALS AVAILABLE

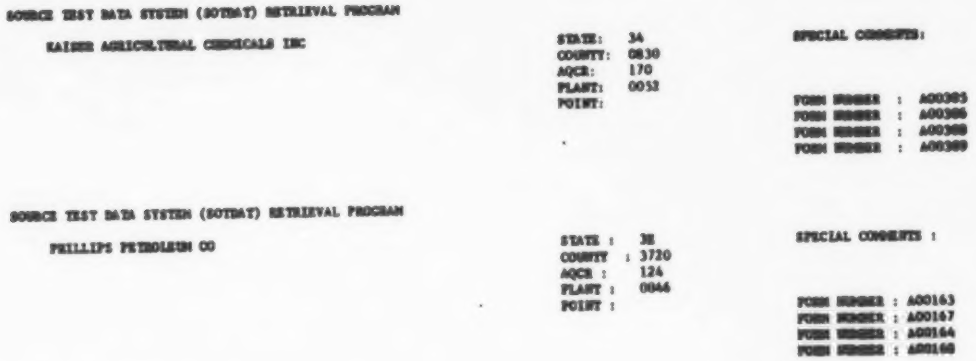
As with the complete SOTDAT File Listing, the entire file is printed out; thus, no optional retrievals are available currently.

2.2.1.3.3 SORTS AVAILABLE

The report is sorted by NEDS ID number and printed in that sequence. No options are now available.

2.2.1.3.4 SAMPLE REPORT

Figure 2.2.1.c shows a portion of the "Name, Address, and Form Number" listing.



```
SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM
    KAISER AGRICULTURAL CHEMICALS INC
                                                      STATE:    34              SPECIAL COMMENTS:
                                                      COUNTY:   0830
                                                      AQCR:     170
                                                      PLANT:    0052
                                                      POINT:                    FORM NUMBER  :  A00385
                                                                                FORM NUMBER  :  A00386
                                                                                FORM NUMBER  :  A00388
                                                                                FORM NUMBER  :  A00389


SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM
    PHILLIPS PETROLEUM CO
                                                      STATE :   38              SPECIAL COMMENTS :
                                                      COUNTY  : 3720
                                                      AQCR :    124
                                                      PLANT :   0046
                                                      POINT :                   FORM NUMBER : A00163
                                                                                FORM NUMBER : A00167
                                                                                FORM NUMBER : A00164
                                                                                FORM NUMBER : A00168
```

Figure 2.2.1.c. Name, Address and Form Numbers for each Plant on File

2.2.2.1 EMISSION FACTORS FOR SPECIFIED POLLUTANTS

2.2.2.1.1 GENERAL DESCRIPTION

This report presents the SOTDAT emission factors for all plants in the SOTDAT file that are sources of the pollutant or pollutants specified. Also included are the appropriate emission rates for each plant-pollutant combination. Up to 25 pollutant codes may be specified in the request.

2.2.2.1.2 RETRIEVALS AVAILABLE

This report is retrieved by the pollutant types selected. No other retrievals are possible.

2.2.2.1.3 SORTS AVAILABLE

The primary sort is by pollutant, followed by the SCC type, then by the NEDS ID (State, County, Plant, and Point), followed by the run date and run number. No options are available.

2.2.2.1.4 SAMPLE REPORT

Figure 2.2.2.a shows the report format for a run selecting two pollutants.

```
    SOURCE TEST DATA SYSTEM (SOTDAT) RETRIEVAL PROGRAM

SELECT POLLUTANT = A2126A
SELECT POLLUTANT = D2401T

                                                              POLLUTANT  :  A2126A

                                                                 SCC :  30300602

                                                                   SAMPLE
                                        RUN  REASON   TEST          TIME      SAMP       TEST        POLL    EMISSION FACTOR    EMISSIONS / NC
STA  CNTY  AQCR  PLANT  PT   FORM     DATE      NO  TESTED  METHOD  UNITS    (MIN)     POS       RESULT      TEMP     (KGMS / SEC)      (KGMS / HOUR)
 36  3160   181   0005      A00013  05118171  01     1      10      5     00120.00     0    450423.48570  051.0  00000113.1903270  05297330.70860
 36  3160   181   0005      A00014  05118171  02     1      10      5     00114.00     0       894.90000  036.0  00038469.2183104  00339440.33110

                                                              POLLUTANT  :  A2126A

                                                                 SCC  :  30300699

                                                                   SAMPLE
                                        RUN  REASON   TEST          TIME      SAMP       TEST        POLL    EMISSION FACTOR    EMISSIONS / NC
STA  CNTY  AQCR  PLANT  PT   FORM     DATE      NO  TESTED  METHOD  UNITS    (MIN)     POS       RESULT      TEMP     (KGMS / SEC)      (KGMS / HOUR)
 36  3160   181   0005      A00017  05120171  01     1      10      5     00108.00     0    450423.49735  052.0  00000435.9488908  21338305.13020
 36  3160   181   0005      A00018  05120171  02     1      10      5     00108.00     0    450423.49836  056.0  00000114.6643198  05346293.18000

                                                              POLLUTANT  :  D2401T

                                                                 SCC  :  30300602

                                                                   SAMPLE
                                        RUN  REASON   TEST          TIME      SAMP       TEST        POLL    EMISSION FACTOR    EMISSIONS / NC
STA  CNTY  AQCR  PLANT  PT   FORM     DATE      NO  TESTED  METHOD  UNITS    (MIN)     POS       RESULT      TEMP     (KGMS / SEC)      (KGMS / HOUR)
 36  3160   181   0005      A00013  05118171  01     1      77      5     00060.00     0    172359.82581  039.0  00001137.8661086  55583783.33440
 36  3160   181   0005      A00014  05118171  02     1      77      5     00140.00     0    140540.48770  039.0  00001338.3857383  91567277.40040

UNITS NOT SPECIFIED.  SOURCE ID 052280028
```

Figure 2.2.2.a. Emissions Factor for Specified Pollutant Codes

The Storage and Retrieval of Aerometric Data (SAROAD) System was one of the two original components of AEROS. The SAROAD system provides for the storage and retrieval of air quality and meteorological data and generates air quality data reports in three categories:

1. Raw Data Reports
2. Summary Reports
3. Management Reports

The raw data reports list the actual stored data on pollutant concentrations in the ambient atmosphere. They give the geographic location of the observations, as specified by the Site Code; the times and averaging periods of the data; and the method of data collection and analysis. The seven raw data reports described below are:

1. Raw data for less than 24 hour averaging periods
2. Raw data for sampling periods equal to or greater than 24 hours
3. Raw data for composite (variable samples)
4. Standards Listing
5. Site Description Inventory
6. Raw data in SAROAD format
7. Meteorological Raw Data Report and Plot

The summary reports give annual and quarterly summaries and frequency distributions of the air quality data. The five summary reports described below are:

1. Yearly Frequency Distribution
2. Quarterly Frequency Distribution
3. Yearly Report by Quarters
4. Meteorological and Pollutant Summary Statistics Plot
5. Meteorological and Pollutant Frequency, Percent Frequency, and Plot Reports

The management reports are designed to provide information on the status of the data contained in the SAROAD files, as well as on the activities of the data collection sites. These reports also are to provide inventories of the data available from the SAROAD system. The six management reports described herein are:

1. Inventory by Site
2. Inventory by Pollutant
3. Inventory by Pollutant within State
4. Summary Report of Valid Data
5. Summary Report of Monitoring Activity
6. Active Site Report

From the overall system point of view, SAROAD may be thought of as being divided into two major subsystems: the SAROAD site file with its associated information, and the SAROAD Data File consisting mainly of air quality data of several varieties.

The SAROAD site file contains descriptive information on the sampling site and its environment. This information includes the address of the site; the type of surveillance carried on at the site, whether population-oriented, background, compliance investigation, etc; the station location category, whether center city, industrial or rural, etc.; and the latitude, longitude, and elevation of the sampling device. The UTM coordinates may be given in place of or in addition to the geographic coordinates. Data for approximately 9,000 sites are stored in the SAROAD Site File, of which roughly one-half are currently operational sites. The reasons for storing data from some 5,000 discontinued sites in the SAROAD files have to do with the need for establishing trends in the ambient air quality around the nation and the importance of maintaining as large a population of data as possible for that purpose. In some cases the new site is very close to the old site and the record may be considered to be essentially uninterrupted if other factors, such as type of instrumentation, etc., remain unchanged. In addition, the several states have indicated plans for the installation of some 3,000 new sites, each one of which will collect data from a number of instruments sampling several pollutants. This growth is expected over the next few years, so that the size of the SAROAD Site File may reasonably be expected to increase by that amount, at least.

The principal uses of the SAROAD Site File at the present time is to correlate the site location and other identifying characteristics with all of the air quality (AQ) data associated with that site and to edit incoming data. All information on individual sites can be retrieved separately, if desired, on a geographical basis (i.e., by state, AQCR, etc.).

Site numbers for new or previously unreported sites are assigned by the appropriate EPA Regional Office. Before this can be done, however, all of the identifying characters of the site must be completed on the

SAROAD site form. No data can be included in the SAROAD files for a site until a site number has been assigned to that site. A complete directory of all site data for SAROAD monitoring sites is published annually by NADB (see section 5.2.3, below).

The SAROAD Data Subsystem is made up of ambient air quality (AQ) information and meteorological data which is submitted by over 4000 active air quality monitoring sites around the country for inclusion in the SAROAD system. The AQ data are extensively analyzed by statistical means in order to reduce the large quantity of raw data to useful information. The parameter coding system is arranged so that approximately 72,000 different pollutant codes can be identified. In addition, codes are assigned for the methods of collection and analysis of each parameter (pollutant). The sampling intervals employed in the monitoring activities range from 1-hour averages of continuous monitoring instrument readings to composite data taken at weekly, monthly, or quarterly intervals or at irregular intervals. For all AQ data, the following information is submitted:

1. Site ID
2. Parameters (pollutants sampled), Method, Interval
3. Date of observation
4. Data Values

Some of the reports which are available under the SAROAD system include certain statistics derived from the AQ data in the file. These statistics are calculated for all AQ data in the file, but the statistics are considered valid only when the data meet the NADB criteria for completeness of data. The formula for the four most commonly used statistics are given below, together with the stated criteria for data quantity which must be satisfied before the statistics are considered valid by NADB.

1. Arithmetic Mean $\bar{x} = \frac{\Sigma x}{n}$

2. Arithmetic Standard Deviation $SD = \sqrt{\frac{\Sigma x^2 - \frac{(\Sigma x)^2}{n}}{n-1}}$

3. Geometric Mean $= \text{Antilog} \frac{(\Sigma \ln x)}{n}$

4. Geometric Standard Deviation

$$SD_{GEO} = \text{Antilog } (SD_{\log}) = \text{antilog} \sqrt{\frac{\Sigma(\ln x)^2 - \frac{(\Sigma \ln x)^2}{n}}{n-1}}$$

The air quality data criteria are as follows:

1. Minimum summary criteria for continuous sampling (sampling interval less than 24 hours) are:

    a. Data representing quarterly periods must reflect a minimum of 75 percent of the total number of possible observations for the applicable quarter.

b. Data representing annual periods must reflect a minimum of 75 percent of the total number of possible observations for the applicable year.

2. Minimum summary criteria for noncontinuous sampling (sampling interval of 24 hours or more) are:

   a. Data representing quarterly periods must reflect a minimum of five observations made during the applicable quarter. If no measurements were made during 1 month of the quarter, each of the two remaining months must have no fewer than two observations reported.

   b. Data representing annual periods must reflect 4 quarters of observational data satisfying the individual quarterly criteria.

Table 2.3.0.a summarizes the retrieval options available for each of the SAROAD reports.

Table 2.3.0.a. SUMMARY OF SAROAD RETRIEVALS

Report	Nationwide	EPA Region	State	State/Area	State/Area/Site	AQCR	Year	Year/Quarter	Year/Month	Pollutant	Pollutant/Method	Agency/Project	Any Combination of These	Several Combinations of These	State/Area/Site/Agency/Project
Raw Data Reports															
Raw Data Less Than 24 Hours	X		X	X	X		X		X	X	X	X	X		
Raw Data Listing Greater Than or Equal to 24 Hours	X		X	X	X	X	X		X	X	X	X	X		
Raw Data Listing Composite	X		X	X	X		X		X	X	X	X	X		
Standards Reports	X	X	X			X	X								
Site Description Inventory	X		X			X									
Raw Data in SAROAD Format			X	X	X		X		X	X	X	X		X	
Meteorological Raw Data Report and Plot			X	X	X		X	X	X	X	X	X			
Summary Reports															
Yearly Frequency Distribution	X		X	X	X	X	X		X	X	X	X		X	
Quarterly Frequency Distribution	X		X	X	X	X	X		X	X	X	X		X	
Yearly Report by Quarters	X		X	X	X	X	X		X	X	X	X		X	
Meteorological and Pollutant Summary Statistics Plot							X	X		X					X
Meteorological and Pollutant Frequency, Percent Frequency, and Plot Reports							X	X	X	X					X
Management Reports															
Inventory by Site	X	X	X												
Inventory by Pollutant	X	X	X							X					
State Inventory by Pollutant	X	X	X							X					
Summary Report of Valid Data	X		X	X								X	X		
Summary of Monitoring Activity	X						X	X							
Active Site Report			X	X	X	X	X			X	X	X		X	

2.3.1.1 RAW DATA LESS THAN 24 HOURS

2.3.1.1.1 GENERAL DESCRIPTION

This report lists the hourly observations of pollutant concentrations in 24 columns, 1 line per day, 1 month per page. The report may also be used, with suitable modifications in format, for data recorded for 2-, 3-, 4-, 6-, 8-, and 12-hour intervals. The heading of the report contains the name of the pollutant; the pollutant/method code; the units used; the method of collection and analysis; the name of the state; the area; the site name and address; the complete site, agency, and project code; the month and year; and an identifier giving the averaging period of the observational data (for example, "1-hour data listing"). To the left of the 24-column body of the report is a column giving the days of the month; to the right are columns for the daily mean values and the number of observations made each day. Below the row for the last day of the month are three other rows, one for the average values for each hour, one for the numbers of observations made at each hour throughout the month, and one for the maximum value occurring at each hour. In the lower righthand corner are the average value for the entire month, the total number of observations for the month, and the maximum value that occurred in the month. The report is also capable of creating 3-, 8-, 12-, and 24-hour running averages from 1-hour data.

2.3.1.1.2 RETRIEVALS AVAILABLE

The SAROAD System employs a standard selection format for all retrievals for reports using the "SAROAD Standard Format Selection" procedure. The 1-Hour Data Listing may be retrieved by the following selection keys:

a. Nationwide
b. State
c. State/Area
d. State/Area/Site
e. AQCR
f. Year
g. Year/Month
h. Pollutant
i. Pollutant/Method
j. Agency/Project
k. Any combination of these keys

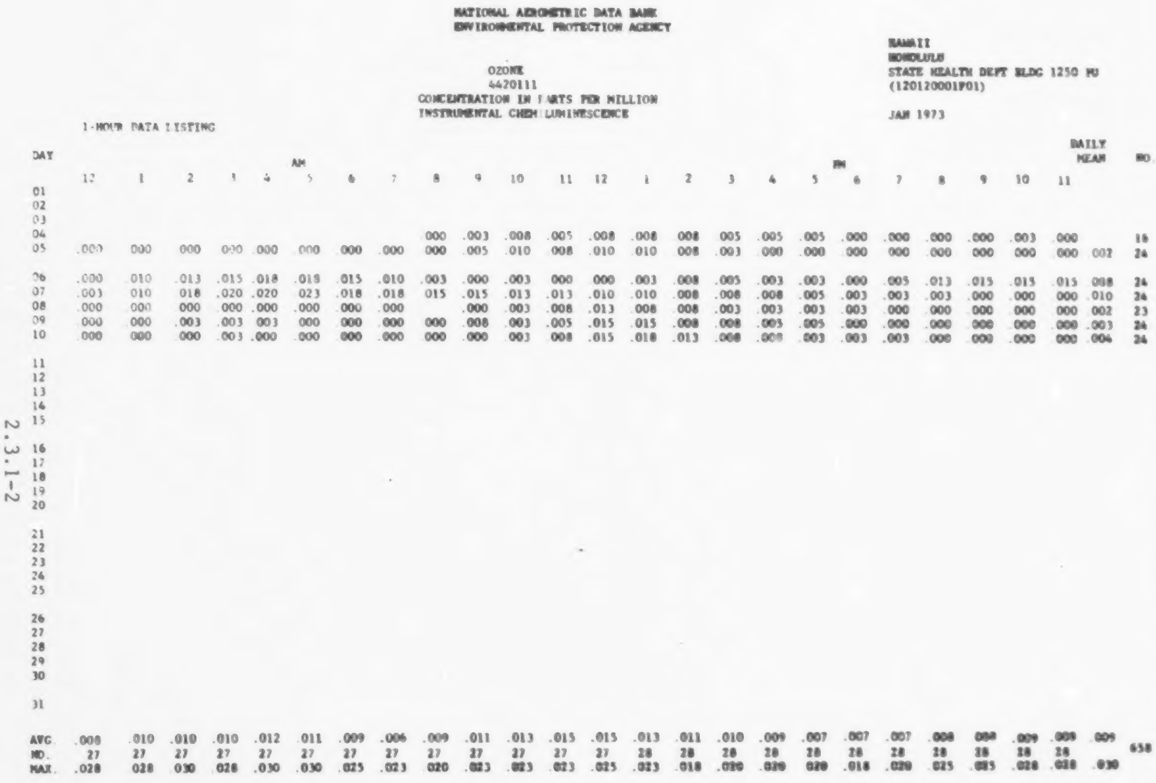
The multiple items listed above indicate that the retrieval may not be effected for the "Area" key without also specifying the "State" key, and so on.

2.3.1.1.3 SORTS AVAILABLE

There are no optional sorts available. Data are printed in ascending order by site ID and within site by pollutant.

2.3.1.1.4 SAMPLE REPORT

Figure 2.3.1.a shows a sample of this report for ozone measurements at a site in Honolulu, Hawaii.



NATIONAL AEROMETRIC DATA BANK
ENVIRONMENTAL PROTECTION AGENCY

OZONE
4420111
CONCENTRATION IN PARTS PER MILLION
INSTRUMENTAL CHEM LUMINESCENCE

HAWAII
HONOLULU
STATE HEALTH DEPT BLDG 1250 PU
(120120001F01)

JAN 1973

1-HOUR DATA LISTING

DAY					AM													PM						DAILY MEAN	NO.
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11		
01																										
02																										
03																										
04									000	.003	.008	.005	.008	.008	.008	.005	.005	.005	.000	.000	.000	.000	.003	.000		16
05	.000	000	000	000	.000	.000	.000	.000	000	.005	.010	008	.010	.010	008	.003	.000	.000	.000	000	.000	000	000	.000	002	24
06	.000	.010	.013	.015	.018	.018	.015	.010	.003	.000	.003	000	000	.003	.008	.005	.003	.003	.000	.005	.013	.015	.015	.015	.008	24
07	.003	010	018	.020	.020	023	.018	.018	015	.015	.013	.013	.010	.010	.008	.008	.008	.005	.003	.003	.003	.000	.000	000	.010	24
08	.000	000	000	.000	.000	.000	.000	.000		.000	.003	.008	.013	008	.008	.003	.003	.003	.003	.000	.000	000	000	000	002	23
09	.000	.000	.003	.003	003	000	000	.000	000	.008	.003	.005	.015	.015	.008	.008	.005	.005	.000	.000	.000	000	.000	.000	.003	24
10	.000	000	.000	.003	.000	.000	000	.000	000	.000	.003	008	.015	.018	.013	.008	.008	.003	.003	.003	.000	000	.000	000	.004	24
11																										
12																										
13																										
14																										
15																										
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27																										
28																										
29																										
30																										
31																										
AVG.	.008	.010	.010	.010	.012	.011	.009	.006	.009	.011	.013	.015	.015	.013	.011	.010	.009	.007	.007	.007	.008	.008	.009	.009	.009	
NO.	27	27	27	27	27	27	27	27	27	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28		658
MAX.	.028	028	.030	.028	.030	.030	.025	.023	020	.023	.023	.023	.025	.023	.018	.020	.020	020	.018	.020	.025	.025	.028	.028	.030	

Figure 2.3.1.a. Raw Data Less Than 24 Hours Report

2.3.1.2 RAW DATA LISTING GREATER THAN OR EQUAL TO 24 HOURS

2.3.1.2.1 GENERAL DESCRIPTION

The raw data listing for 24 hour data consists of one value of pollutant concentration for each day for which valid data exist. The heading information includes the valid date of the data, the title of the report, the pollutant name and code number, the units used, and the page number. There are seven columns in the body of the report; these are, from left to right across the page, the Site Name and State, the Site Code number, the Agency Type and Project Classification Codes, the Year, the Month, the Day, and the tabulated values of pollutant concentration levels. Each pollutant type starts a new page of the report. Because this report may be used for data intervals greater than 24 hours, there may not be any entries in the body of the report for certain days. The Sample Reports show this effect, which may also be caused by missing or invalid data for a 24-hour period of certain days.

2.3.1.2.2 RETRIEVALS AVAILABLE

This report uses the SAROAD standard format selection procedure. Thus, retrievals may be made on:

a. Geographic keys - nationwide, state, AQCR, area (county or city), or site.
b. Other keys - pollutant, pollutant/method, pollutant/interval, agency/project time period specified by start and end year or year/month.
c. Any appropriate combination of these.

2.3.1.2.3 SORTS AVAILABLE

Fourteen sort keys are available for specification by the user. A maximum of three sorts is possible in any given run. The "standard" sorting option used by NADB at the present time is a sort by Site Code, then by Pollutant-Method-Interval-Units, then by Date or Year-Quarter. The various sort options are:

Site Code
Agency/Project
State-Agency-Project
Project Code
AQCR
State-AQCR
AQCR-Area-Site-Agency-Project
Pollutant-Method-Units
Pollutant-Interval
Interval-Units
Pollutant-Method-Interval-Units
Units
Pollutant-Interval-Units
Date or Year-Quarter

2.3.1.2.4 SAMPLE REPORT

Figure 2.3.1.b shows a report retrieval for a particulate sampling site in Dade County in the State of Florida.

```
                                         NATIONAL AEROMETRIC DATA BANK                  PAGE  2
                                         RAW DATA LISTING 24-HOUR
                                         111019101 PARTICULATE
                                         REPORTED IN UG/CU METER (25 C)

SITE NAME                              SITECODE   AGENCY/PROJECT   YEAR  MONTH  DAY    VALUE

DADE CO
 FLORIDA                               100860002       G01          73    MAR    01      0.
                                                                                 04      0.
                                                                                 05      0.
                                                                                 06      0.
                                                                                 07      0.
                                                                                 08      0.
                                                                                 09      0.
                                                                                 10      0.
                                                                          APR    01      0.
                                                                                 02    212.
                                                                                 03    263.
                                                                                 04      0.
                                                                                 05      0.
                                                                                 06      0.
                                                                                 07      0.
                                                                                 08      0.
                                                                                 09      0.
                                                                                 10      0.
                                                                                 11      0.
                                                                                 12     97.
                                                                                 17     82.
                                                                          MAY    01    212.
                                                                                 02    263.
                                                                                 03      0.
                                                                                 04      0.
                                                                                 05      0.
                                                                                 06      0.
                                                                                 07      0.
                                                                                 08      0.
                                                                                 09    115.
                                                                                 10      0.
                                                                                 11     97.
                                                                                 12     82.
                                                                          JUL    02     51.
                                                                                 10     44.
                                                                                 18     42.
                                                                                 24     52.
```

Figure 2.3.1.b. Raw Data Listing 24-Hour Report

2.3.1.3 RAW DATA LISTING COMPOSITE

2.3.1.3.1 GENERAL DESCRIPTION

This report follows the same format as the 24-Hour Data Report (see 2.3.1.2, above). The time interval over which the raw data are averaged must be specified, because it is a variable and, for a given report, could be a year, quarter, month, or week. As with the 24-Hour Raw Data Report, each pollutant starts on a new page.

2.3.1.3.2 RETRIEVALS AVAILABLE

This report uses the SAROAD Standard Format Selection procedure as defined for raw data $\geq$ 24-hour.

2.3.1.3.3 SORTS AVAILABLE

Fourteen sort keys are available for specification by the user. A maximum of three sorts is possible in any given run. The "standard" sorting option used by NADB at the present time is a sort by Site Code, then by Pollutant-Method-Interval-Units, then by Date or Year-Quarter. The various sort options are:

Site Code
Agency/Project
State-Agency-Project
Project Code
AQCR
State-AQCR
AQCR-Area-Site-Agency-Project
Pollutant-Method-Units
Pollutant-Interval
Interval-Units
Pollutant-Method-Interval-Units
Units
Pollutant-Interval-Units
Date or Year-Quarter

2.3.1.3.4 SAMPLE REPORT

Figure 2.3.1.c shows a sample report for the pollutant copper, measured at a station in Boulder, Colorado.

```
                        NATIONAL AEROMETRIC DATA BANK                        PAGE  1
                        RAW DATA LISTING MONTHLY COMPOSITE

SITE NAME          SITE CODE     AG/PROJ     POLLUTANT      YEAR    PERIOD     SAMPLES      VALUE

BOULDER
 COLORADO          060200001     F01        COPPER
                                            UG/CU METER (25 C)
                                            121149201      73         01           6        .360
                                                                      02           6        .410
                                                                      03           8        .360
                                                                      04           8        .320
                                                                      05           6        .300
                                                                      06           7        .930
                                                                      07           5        .990
                                                                      08           6        .340
                                                                      09           7        .390
```

Figure 2.3.1.c. Raw Data Listing Composite Report

2.3.1.4 STANDARDS REPORTS

2.3.1.4.1 GENERAL DESCRIPTION

This series of 12 reports shows, for each pollutant-site combination within the geographical region specified, the number of occasions within the period of time specified when the National Ambient Air Quality Standards (NAAQS) were violated. For those pollutants having both primary and secondary standards, the numbers of violations are shown separately for each type of standard. The standard format site description information appears at the top of the sheet with the designation of pollutant-interval combination above it, along with the State Code and name and the valid date of the data. Below the site description data, the main body of the report consists of 28 columns of data (for the monthly reports) or 13 columns of data (for the yearly reports) containing the individual hourly or daily observations for the pollutant in question. Every time that the appropriate standard was exceeded, a symbol (* or +) is placed beside the observation so as to identify the time and date of the violation. For the monthly reports, the number of observations and the mean value are tabulated for each day at the right-hand side of the paper; and the number of observations, maximum value, and arithmetic mean are listed for each hour of the day at the bottom of each column. For yearly reports the same data are provided, but on a monthly basis. Below these figures are given the total number of observations for the month (or year), the percentage of possible observations, the numbers of times that the respective standards were exceeded, the arithmetic or geometric mean and standard deviation, as appropriate, with accompanying statements as to whether the primary and secondary standards were met or exceeded (for those pollutants having standards based on those parameters), and, along the bottom of the page, the identifications by name of the methods of collection and analysis, together with a statement defining the time used (whether standard or daylight saving).

The following reports are available:

a. Particulate (total suspended particulates)
b. Sulfur dioxide, daily values
c. Sulfur dioxide, daily averages of hourly values
d. Sulfur dioxide, 3-hour averages
e. Carbon monoxide, hourly averages
f. Carbon monoxide, 8-hour averages
g. Total oxidants
h. Ozone
i. Nitrogen dioxide, daily values
j. Nitrogen dioxide, hourly values
k. Total hydrocarbons
l. Nonmethane hydrocarbons

2.3.1.4.2 RETRIEVALS AVAILABLE

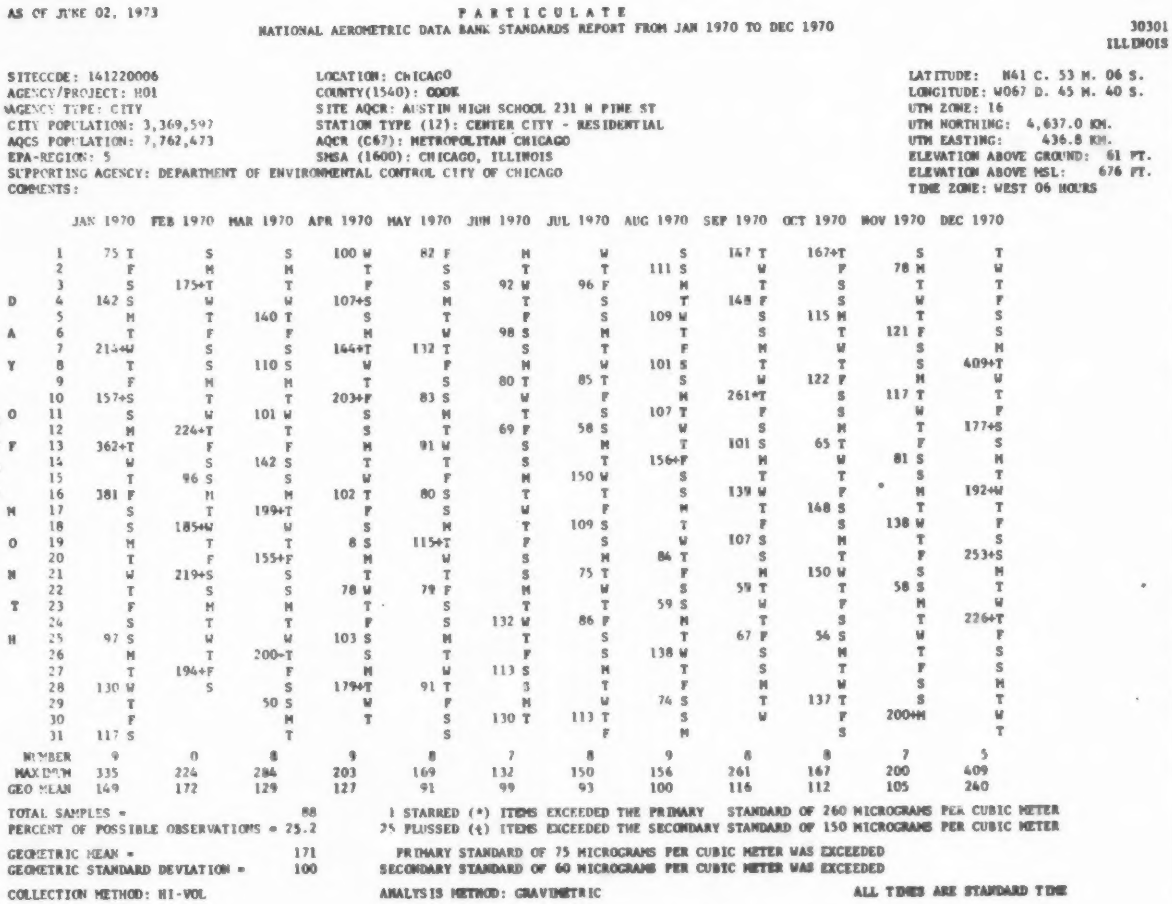
Once the basic selections of pollutant type and averaging interval have been made, the standards reports may be retrieved on a nationwide, EPA region, state, or AQCR basis for specified periods of time.

2.3.1.4.3 SORTS AVAILABLE

There are no optional sorts available.

2.3.1.4.4 SAMPLE REPORT

Figure 2.3.1.d shows a sample yearly report for particulate sampling followed by a sample monthly report for 3-hour running averages for sulfur dioxide.



```
AS OF JUNE 02, 1973                                         P A R T I C U L A T E
                                  NATIONAL AEROMETRIC DATA BANK STANDARDS REPORT FROM JAN 1970 TO DEC 1970                        30301
                                                                                                                                ILLINOIS

SITECODE: 141220006                       LOCATION: CHICAGO                                               LATITUDE:   N41 C. 53 M. 06 S.
AGENCY/PROJECT: H01                       COUNTY(1540): COOK                                              LONGITUDE: W067 D. 45 M. 40 S.
AGENCY TYPE: CITY                         SITE AQCR: AUSTIN HIGH SCHOOL 231 N PINE ST                     UTM ZONE: 16
CITY POPULATION: 3,369,597                STATION TYPE (12): CENTER CITY - RESIDENTIAL                    UTM NORTHING:  4,637.0 KM.
AQCS POPULATION: 7,762,473                AQCR (C67): METROPOLITAN CHICAGO                                UTM EASTING:      436.8 KM.
EPA-REGION: 5                             SMSA (1600): CHICAGO, ILLINOIS                                  ELEVATION ABOVE GROUND:  61 FT.
SUPPORTING AGENCY: DEPARTMENT OF ENVIRONMENTAL CONTROL CITY OF CHICAGO                                    ELEVATION ABOVE MSL:    676 FT.
COMMENTS:                                                                                                 TIME ZONE: WEST 06 HOURS

          JAN 1970  FEB 1970  MAR 1970  APR 1970  MAY 1970  JUN 1970  JUL 1970  AUG 1970  SEP 1970  OCT 1970  NOV 1970  DEC 1970

      1       75 T         S         S     100 W      82 F         M         W         S     167 T    167+T          S         T
      2          F         M         M         T         S         T         T     111 S         W         F      78 M         W
      3          S     175+T         T         F         S      92 W      96 F         M         T         S         T         T
D     4      142 S         W         W     107+S         M         T         S         T     148 F         S         W         F
      5          M         T     140 T         S         T         F         S     109 W         S     115 M         T         S
A     6          T         F         F         M         W      98 S         M         T         S         T     121 F         S
      7      214+W         S         S     144+T     132 T         S         T         F         M         W         S         M
Y     8          T         S     110 S         W         F         M         W     101 S         T         T         S     409+T
      9          F         M         M         T         S      80 T      85 T         S         W     122 F         M         W
     10      157+S         T         T     203+F      83 S         W         F         M     261*T         S     117 T         T
O    11          S         W     101 W         S         M         T         S     107 T         F         S         W         F
     12          M     224+T         T         S         T      69 F      58 S         W         S         M         T     177+S
F    13      362+T         F         F         M      91 W         S         M         T     101 S      65 T         F         S
     14          W         S     142 S         T         T         S         T     156+F         M         W      81 S         M
     15          T      96 S         S         W         F         M     150 W         S         T         T         S         T
     16      381 F         M         M     102 T      80 S         T         T         S     139 W         F         M     192+W
M    17          S         T     199+T         F         S         W         F         M         T     148 S         T         T
     18          S     185+W         W         S         M         T     109 S         T         F         S     138 W         F
O    19          M         T         T       8 S     115+T         F         S         W     107 S         M         T         S
     20          T         F     155+F         M         W         S         M      84 T         S         T         F     253+S
N    21          W     219+S         S         T         T         S      75 T         F         M     150 W         S         M
     22          T         S         S      78 W      79 F         M         W         S      59 T         T      58 S         T
T    23          F         M         M         T         S         T         T      59 S         W         F         M         W
     24          S         T         T         F         S     132 W      86 F         M         T         S         T     226+T
H    25       97 S         W         W     103 S         M         T         S         T      67 F      54 S         W         F
     26          M         T     200+T         S         T         F         S     138 W         S         M         T         S
     27          T     194+F         F         M         W     113 S         M         T         S         T         F         S
     28      130 W         S         S     179+T      91 T         3         T         F         M         W         S         M
     29          T                50 S         W         F         M         W      74 S         T     137 T         S         T
     30          F                   M         T         S     130 T     113 T         S         W         F     200+M         W
     31      117 S                   T                   S                   F         M                   S                   T

 NUMBER      9         0         8         9         8         7         8         9         8         8         7         5
MAXIMUM    335       224       284       203       169       132       150       156       261       167       200       409
GEO MEAN   149       172       129       127        91        99        93       100       116       112       105       240

TOTAL SAMPLES =                         88        1 STARRED (*) ITEMS EXCEEDED THE PRIMARY   STANDARD OF 260 MICROGRAMS PER CUBIC METER
PERCENT OF POSSIBLE OBSERVATIONS = 25.2          25 PLUSSED (+) ITEMS EXCEEDED THE SECONDARY STANDARD OF 150 MICROGRAMS PER CUBIC METER

GEOMETRIC MEAN =                       171          PRIMARY STANDARD OF 75 MICROGRAMS PER CUBIC METER WAS EXCEEDED
GEOMETRIC STANDARD DEVIATION =         100        SECONDARY STANDARD OF 60 MICROGRAMS PER CUBIC METER WAS EXCEEDED

COLLECTION METHOD: HI-VOL                         ANALYSIS METHOD: GRAVIMETRIC                               ALL TIMES ARE STANDARD TIME
```

Figure 2.3.1.d. Standards Report

```
AS OF JUNE 02, 1973                                          S U L F U R   D IO X I D E
                                                                   3 HOUR AVERAGE                                                              30301
                                            NATIONAL AEROMETRIC DATA BANK STANDARDS REPORT FOR MARCH, 1969                                     ILLINOIS

SITECODE: 141220006                         LOCATION: CHICAGO                                                          LATITUDE:   N41 C. 53 M. 06 S.
AGENCY/PROJECT: H01                         COUNTY(1540): COOK                                                         LONGITUDE: W067 D. 45 M. 40 S.
AGENCY TYPE: CITY                           SITE AQCR: AUSTIN HIGH SCHOOL 231 N PINE ST                                UTM ZONE: 16
CITY POPULATION: 3,369,597                  STATION TYPE (12): CENTER CITY - RESIDENTIAL                               UTM NORTHING:  4,637.0 KM.
AQCS POPULATION: 7,762,473                  AQCR (067): METROPOLITAN CHICAGO                                           UTM EASTING:      436.8 KM.
EPA-REGION: 5                               SMSA (1600): CHICAGO, ILLINOIS                                             ELEVATION ABOVE GROUND:  61 FT.
SUPPORTING AGENCY: DEPARTMENT OF ENVIRONMENTAL CONTROL CITY OF CHICAGO                                                 ELEVATION ABOVE MSL:    676 FT.
COMMENTS: TAMN PARA MONITORED: SO2, WD, WS, COH, NO2, NO                                                               TIME ZONE: WEST 06 HOURS
          CASN PARA MONITORED SO2 (WEST-GAEKE) TOT SUS PART (HI-VOL)
      MDNT     1     2     3     4     5     6     7     8     9    10    11  NOON     1     2     3     4     5     6     7     8     9    10    11     #  MEAN

 1 S    13    13    17    28    65    94    98    79    59    57    90   162   203   238   273   384   458   478   496   531   581   507   462   269    24   236
 2 S   160   155   199   247   365   465   555   537   419   303   223   212   186   196   229   253   275   297   293   312   369   365   367   236    24   309
 3 M   239   221   207   330   483   631   635   600   476   376   238   231   240   325   365   362   314   258   245   277   301   284   259   167    24   339
 4 T   108   111    96    94   144   253   371   382   338   288   229   177   144   103    61    44    33    26    48    55    55    33    26   400    24   155
 5 W   747   784   867  1092  1260  1327 +1204  1087   877   650   515   491   469   476   452   500   535   605   624   668   642   579   527   452    24   723
 6 T   465   458   515   574   694   777   753   544   286    96    46    24    17    50   133   238   262   295   323   384   391   325   298   167    24   338
 7 F   124   175   275   415   539   714   806   814   559   325   138   114    98    96    96   120   273   489   705   725   642   524   475   445    24   401
 8 S   458   448   395   378   362   543   475   364    92    24    13    13    13    13    52   124   214   251   247   170   144   127   164   111    24   215
 9 S    69    63    55    50   247   417   565   544   511   469   356   225   105    35    22    17    13    98   288   533   646   622   560   501    24   290
10 M   521   535   603   679   834   937   926   821   730   573   370   347   312   332   393   424   450   417   400   362   343   341   344   344    24   510
11 T   341   360   354   406   509   666   729   701   605   500   450   489   541   552   515   478   463   467   520   609   668   703   691   740    24   544
12 W   681   718   742   987  1253  1421 +1240   893   585   539   485   406   258   177   153   135   142   138   124   138   179   288   331   851    24   516
13 T  1264  1314 +1419 +1631 +1845 +2046 +1858 +1446 +1016   756   651   531   526   522   500   493   517   533   528   581   672   633   589   337    24   929
14 F   293   290   249   339   517   605   592   528   476   465   467   474   458   454   485   552   548   561   535   572   668   725   806   612    24   916
15 S   553   559   622   751   943  1109  1127   954   696   485   498   570   596   515   456   456   565   699   873   961   928   782   665   648    24   722
16 S   626   592   535   729  1046  1314 +1238  1009   742   596   500   491   480   439   367   321   282   269   273   314   341   338   318   327    24   389
17 M   327   314   314   410   561   664   710   672   592   493   448   509   533   533   465   437   391   362   323   308   309   336   350   360    24   443
18 T   350   347   373   557   982  1380 +1509 +1236   851   579   441   458   437   498   465   461   391   380   373   371   378   389   406   318    24   587
19 W   168   145   121   196   325   434   443   354   258   214   205   201   168   138   114    85    61    31    17    13    13    13    13    13    24   156
20 T    65   135   247   273   286   260   299   273   251   210   199   183   175   190   245   380   369   384   386   376   386   349   357   285    24   271
21 F   275   293   297   371   502   614   622   563   472   432   400   386   295   179   103    68    44    35    31   109   288   579   737   789    24   352
22 S   704   718   790   858  1013  1118  1116   891   598   371   273   260   242   221   183   199   242   290   317   288   249   210   203   226    24   487
23 S   278   253   227   231   345   448   452   376   286   260   236   240   227   218   214   203   153    98    46    33    22    28    29    29    24   231
24 M                                                                                  13    13    13    22    35    48    55    48    35    23    20    11    29
25 T    26    26    26    26    26    26    26    35    44    52    57    68    96   124   146   159   203   264   306   371   410   441   422   319    24   156
26 W   203   194   170   203   275   393   493   522   559   618   646   589   478   426   406   417   428   476   611   795   948   956   940   786    24   522
27 T   701   727   808  1004  1297  1517 +1465 +1096   742   657   681   696   694   913   939   810   574   537   598   620   550   454   370   350    24   783
28 F   275   284   308   426   539   620   570   405   378   312   247   242   277   332   430   467   576   622   675   568   496   474   531   485    24   440
29 S   354   347   290   338   397   507   559   572   526   483   472   382   255   170   251   365   404   413   402   369   393   395   452   403    24   398
30 S   380   345   316   365   430   450   485   480   502   465   450   391   365   356   365   371   345   356   362   391   461   487   534   462    24   413
31 M   403   382   369   415   565   688   900   867   801   541   426   365   367   358   365   360   386   406   421   421   430   417   426   334    24   476

   #    30    30    30    30    30    30    30    30    30    30    30    30    30    31    31    31    31    31    31    31    31    31    31    31
 MAX  1264  1314  1419  1631  1845  1446  1858  1446  1016   756   681   696   694   913   939   810   576   699   873   961   948   956   940   851
MEAN   373   377   396   482   622   748   763   657   511   406   348   331   309   297   299   311   320   341   369   396   418   411   409   379

TOTAL SAMPLES =                          731         STARRED (*) ITEMS EXCEEDED THE PRIMARY   STANDARD OF 0,000 MICROGRAMS PER CUBIC METER
PERCENT OF POSSIBLE OBSERVATIONS = 98.2           14 PLUSSED (+) ITEMS EXCEEDED THE SECONDARY STANDARD OF 1,300 MICROGRAMS PER CUBIC METER

ARITHMETIC MEAN =                        427        PRIMARY STANDARD OF 000 MICROGRAMS PER CUBIC METER WAS MET
ARITHMETIC STANDARD DEVIATION =          296      SECONDARY STANDARD OF 000 MICROGRAMS PER CUBIC METER WAS MET
```

Figure 2.3.1.d (continued). Standards Report

2.3.1.5 SITE DESCRIPTION INVENTORY

2.3.1.5.1 GENERAL DESCRIPTION

This report lists, in a standard site description format, information concerning the environment and operating characteristics of the given sampling site or sites. The site descriptive information is arranged in three blocks across the page, each block containing six to eight lines of information. The various codes as set forth in Volume V, AEROS Manual of Codes, are provided for the various station parameters and each is defined by name. These codes include those for the state, area, agency/project, EPA Region, county, station type, AQCR, SMSA, and UTM zone. The actual numerical values are also provided for the city and AQCR populations, as well as for various geographic parameters including the latitude and longitude of the sampling site, its UTM grid coordinates, the elevation of the sampling probe above the ground and above MSL, and the time differential between local standard time and GMT. In addition, the name of the location is given, along with the name of the supporting agency and any comments that may be appropriate.

2.3.1.5.2 RETRIEVALS AVAILABLE

The site description data can be retrieved on a state, AQCR, or nationwide basis.

2.3.1.5.3 SORTS AVAILABLE

The report is sorted by Site Code number within states. No other sorts are available as options for the user.

2.3.1.5.4 SAMPLE REPORT

Figure 2.3.1.e shows a "Site Description Inventory" for two sites in the State of Rhode Island.

```
                                    NATIONAL AEROMETRIC DATA BANK                                        PAGE 41-0001
                                     SITE DESCRIPTION INVENTORY
                                      STATE (41): RHODE ISLAND

SITECODF: 410040001F01             LOCATION: BRISTOL                                      LATITUDE: 41 D. 40 M. 26 S. N
AGENCY PROJECT: F01                COUNTY (0060): BRISTOL CO                              LONGITUDE:  71 D. 16 M. 18. S. W
AGENCY TYPE: STATE                 SITE ADDR:REYNOLDS ELEMENTARY SCHOOL                   UTM ZONE: 19
CITY POPULATION:      17,860       STATION TYPE (22): SUBURBAN - RESIDENTIAL              UTM NORTHING: 4615800
AQCR POPULATION:  1,645,380        AQCR (120): METROPOLITAN PROVIDENCE                    UTM EASTING: 00310900
EPA-REGION: 1                      SMSA (6480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS   ELEVATION ABOVE GROUND: 040 FT.
SUPPORTING AGENCY: RHODF ISLAND DEPARTMENT OF HEALTH                                      ELEVATION ABOVE MSL: 0090 FT.
COMMENTS:                                                                                 DIFF. GMT: WEST 05 HOURS

SITECODE: 410065001F01             LOCATION: BURRILVILLE                                  LATITUDE: 41 D. 58 M. 9 S. N
AGENCY/PROJECT: F01                COUNTY (0320): PROVIDENCE CO                           LONGITUDE: 71 D. 39 M. 48 S. W
AGENCY TYPE: STATE                 SITE ADDR: BURRILVILLE HIGH SCHOOL                     UTM ZONE: 19
CITY POPULATION:      10,087       STATION TYPE (22): SUBURBAN - RESIDENTIAL              UTM NORTHING: 4649500
AQCR POPULATION:  1,645,380        AQCR (120): METROPOLITAN PROVIDENCE                    UTM EASTING: 00279300
EPA-REGION: 1                      SMSA (6480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS   ELEVATION ABOVE FROUND: 020 FT.
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH                                      ELEVATION ABOVE MSL" 0370 FT.
COMMENTS:                                                                                 DIFF. GMT: WEST 05 HOURS
```

Figure 2.3.1.e. Site Description Inventory Report

2.3.1.6 RAW DATA IN SAROAD FORMAT

2.3.1.6.1 GENERAL DESCRIPTION

The report creates cards or magnetic tape of the raw data input to the computer in the same form as prepared for input. Figures 2.3.1.f, 2.3.1.g, and 2.3.1.h show the input data formats used for the SAROAD programs.

2.3.1.6.2 RETRIEVALS AVAILABLE

There are several key items upon which retrieval may be made by using the SAROAD Standard Format Selection procedure, including: state, area, site, agency type, AQCR, project classification, pollutant type, method of collection and analysis, sampling interval, and starting and ending dates. Certain combinations of selection keys are prohibited. For example, a site key may be entered only if an area key is also entered, and an area key may be entered only if a state key is also entered. Similarly, a project classification code may be included only if an agency type is also specified, and a method of collection and analysis may be specified only if a pollutant type is also specified. All other combinations may be considered as valid retrieval requests. The period of interest is specified by year and month for the starting and ending dates; for example, "7302 7304" or "6801 7212" would be valid ways of specifying the desired retrieval period. Codes for the various retrieval items are given in Volume V of the AEROS Manual.

2.3.1.6.3 SORTS AVAILABLE

There are no sort options available.

2.3.1.6.4 SAMPLE REPORT

Figures 2.3.1.f through 2.3.1.h give the type and sequencing of data contained in the report. The output is available in the form of punched cards, or on magentic tape, or both.

standard output of the SEAS system,[*] and include total gross output for each of 284 economic sectors and subsectors. The SEAS projections are based on a sophisticated model of the national economy in which dynamic modeling of the inputs and outputs of each economic sector with respect to all other sectors is used to project the total gross output of each sector. These econometric projections for each sector are modified in the SEAS system to reflect additional factors which do not influence economic projections for specific industrial sectors, but which do have a substantial effect on emissions. These factors include future process changes and materials substitution, and disaggregation of selected sectors to account for industrial processes within one sector which may grow at different rates.

For each region, the relative share of the SEAS national output forecasts is established using the OBERS economic projections[†] for AQCRs, which contain regional forecasts of population and employment, in addition to projections of regional earnings for 28 industrial sectors. The OBERS projections are reviewed and updated regularly by the Department of Commerce. The methodology used in preparing the OBERS projections involves two basic steps. First, the economic growth of each sector was projected at the national level. Then these national totals were distributed regionally in accordance with historic and projected trends in the regional distributions of economic activity, tempered by available industry- and region-specific growth information.

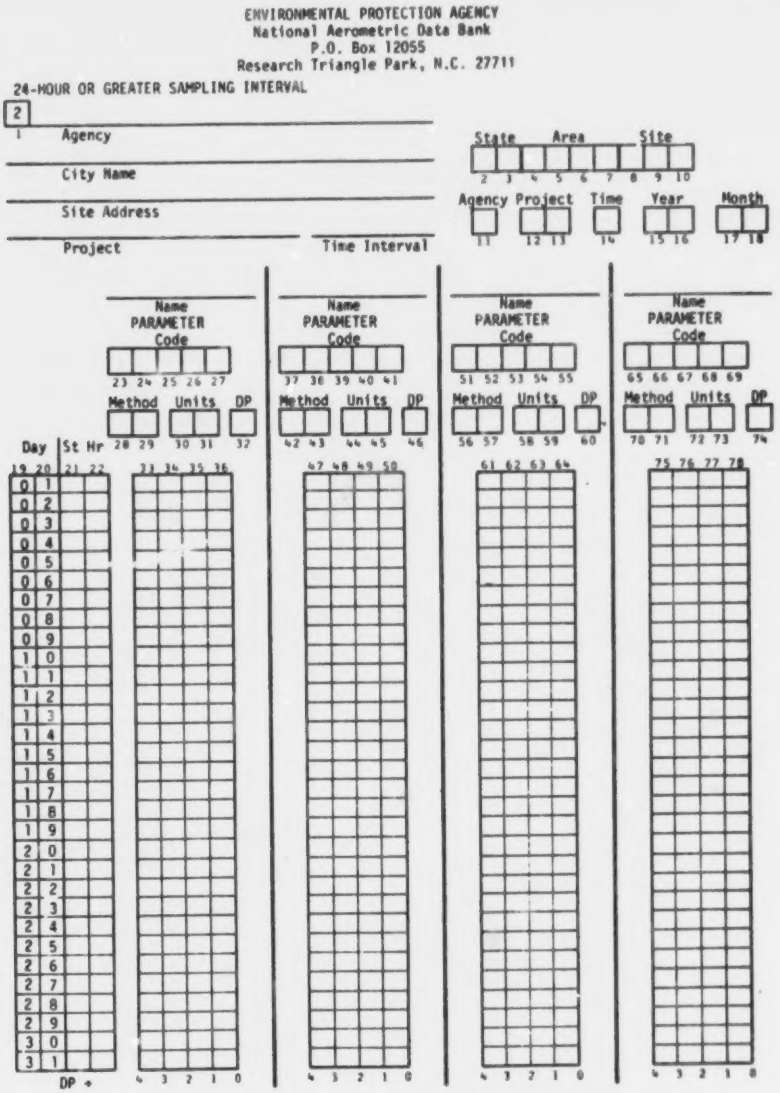
The SEAS and OBERS projections have been supplemented in REPS by a special analysis of growth and relocation trends for five industries which are among the heaviest industrial polluters. These critical industries include electric power generation, steel, chemicals, pulp manufacturing and petroleum refining. The output of this analysis is a file of data on new plants expected to become operational in the future. For each plant, the SCC[‡] Code, the AQCR, the projected startup year and the plant capacity are given. These data may be input to the program at the user's option.

---

[*] Strategic Environmental Assessment System, an econometric and emission forecasting model developed by the Office of Research and Development, Environmental Protection Agency, Washington, D.C.

[†] Regional Economic Activity in the U.S., 1972 OBERS Projections, developed by the U.S. Departments of Commerce and Agriculture for the U.S. Water Resources Council.

[‡] Source Classification Codes defined in NEDS.



ENVIRONMENTAL PROTECTION AGENCY
National Aerometric Data Bank
P.O. Box 12055
Research Triangle Park, N.C. 27711

24-HOUR OR GREATER SAMPLING INTERVAL

2
1

Agency

City Name

Site Address

Project

Time Interval

State Area Site
2 3 4 5 6 7 8 9 10

Agency Project Time Year Month
11 12 13 14 15 16 17 18

Name PARAMETER Code
23 24 25 26 27
Method Units DP
28 29 30 31 32
33 34 35 36

Name PARAMETER Code
37 38 39 40 41
Method Units DP
42 43 44 45 46
47 48 49 50

Name PARAMETER Code
51 52 53 54 55
Method Units DP
56 57 58 59 60
61 62 63 64

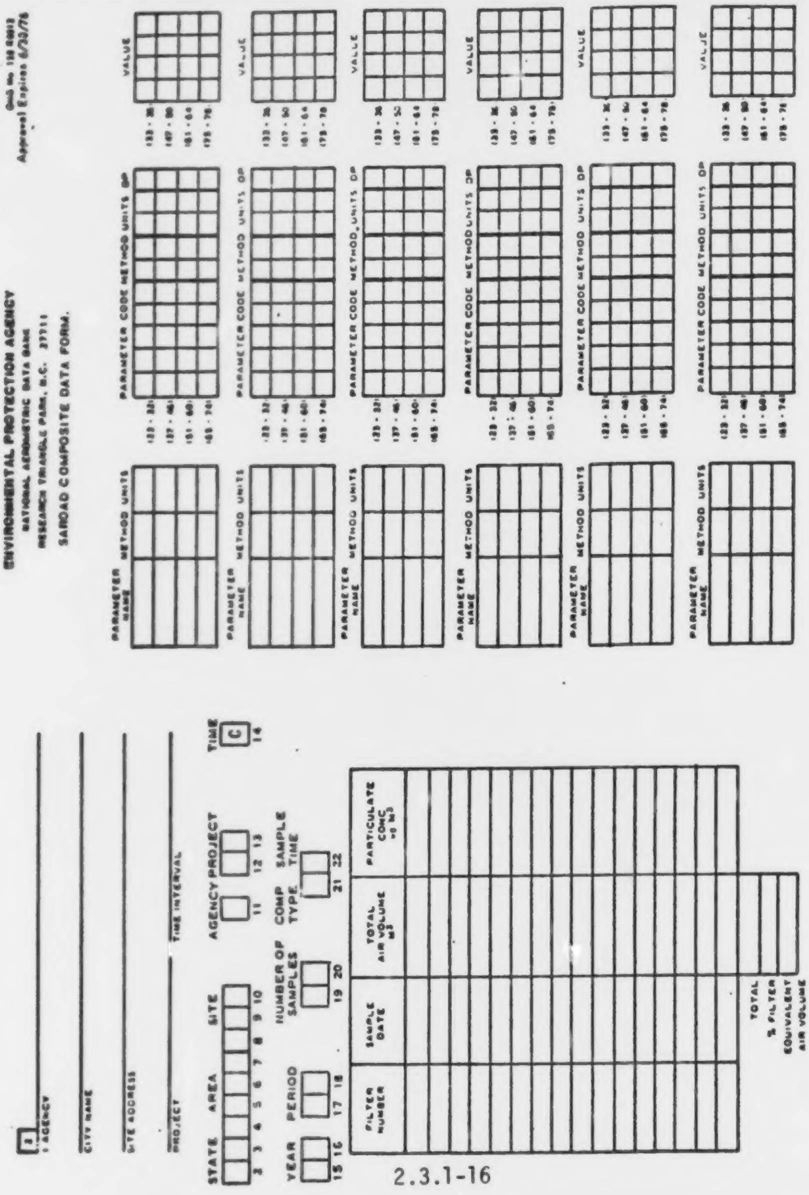
Name PARAMETER Code
65 66 67 68 69
Method Units DP
70 71 72 73 74
75 76 77 78

Day St Hr
19 20 21 22

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

DP →
4 3 2 1 0

Figure 2.3.1.g. SAROAD Daily Data Form



ENVIRONMENTAL PROTECTION AGENCY
NATIONAL AEROMETRIC DATA BANK
RESEARCH TRIANGLE PARK, N.C. 27711
SAROAD COMPOSITE DATA FORM.

OMB No. 158 R0012
Approval Expires 6/30/76

1 AGENCY
CITY NAME
SITE ADDRESS
PROJECT
TIME INTERVAL

STATE 2 3, AREA 4 5 6 7, SITE 8 9 10
AGENCY 11
PROJECT 12 13
TIME C 14
YEAR 15 16
PERIOD 17 18
NUMBER OF SAMPLES 19 20
COMP TYPE 21
SAMPLE TIME 22

FILTER NUMBER	SAMPLE DATE	TOTAL AIR VOLUME m^3	PARTICULATE CONC $\mu g/m^3$
	TOTAL		
	% FILTER		
	EQUIVALENT AIR VOLUME m^3		

PARAMETER NAME	METHOD	UNITS

PARAMETER CODE METHOD UNITS DP
23 - 32
37 - 46
51 - 60
65 - 74

VALUE
33 - 36
47 - 50
61 - 64
75 - 78

Figure 2.3.1.h. SAROAD Composite Data Form

2.3.1.7 METEOROLOGICAL RAW DATA REPORT AND PLOT

2.3.1.7.1 GENERAL DESCRIPTION

This report creates two unique print formats and a plot of meteorological data. The first print format lists the site description at the top of the page, then the parameter-method-unit names, and the raw data values for one month. Each line contains up to 24 raw data values, the mean, and number of observations for each day. This line is repeated for each day in the month. At the bottom of the page, the minimum, maximum, average, and number of observations are given for each hour of the day for that month.

This second printout repeats the site description at the top and the parameter-method-unit names and lists the minimum, the hour of the minimum, the maximum, the hour of the maximum, the mean, and the number of observations for each day of the month.

The plot of the meteorological data is created on CALCOMP plotter or a TEXTRONIX terminal. A separate plot is created for each month of data. The daily minimums, maximums, and means for a specific parameter for each day of the month are plotted with descriptive information on the site and parameter. The plot is a separate report and may be omitted if only the raw data listing is required.

2.3.1.7.2 RETRIEVALS AVAILABLE

The meteorological raw data reports and plots may be retrieved by state, area, site, agency, project, pollutant (only 6XXXX) method units, start and end date, and any appropriate combination of the above.

For the plots, the minimum scale value and a delta value may be specified by the user, or, if omitted, they are calculated by the program. The user can also specify what values (daily minimum, maximum, and/or mean) are plotted.

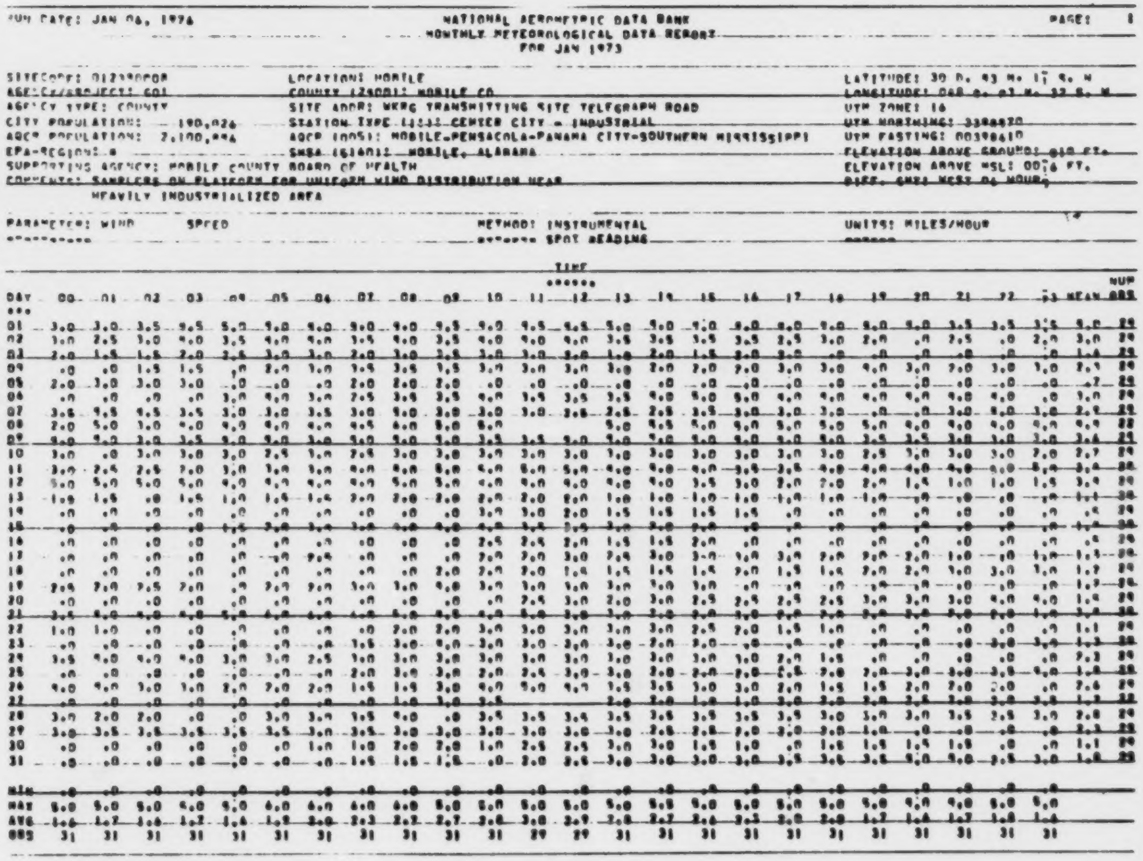
2.3.1.7.3 SORTS AVAILABLE

No optional Sorts are available for this report. The report is printed according to the order on the file:

state/area/site/agency/project/pollutant/year/month

2.3.1.7.4 SAMPLE REPORT

Figures 2.3.1-i,j,k, show examples for wind speed for a site in Mobile, Alabama, for January 1973.



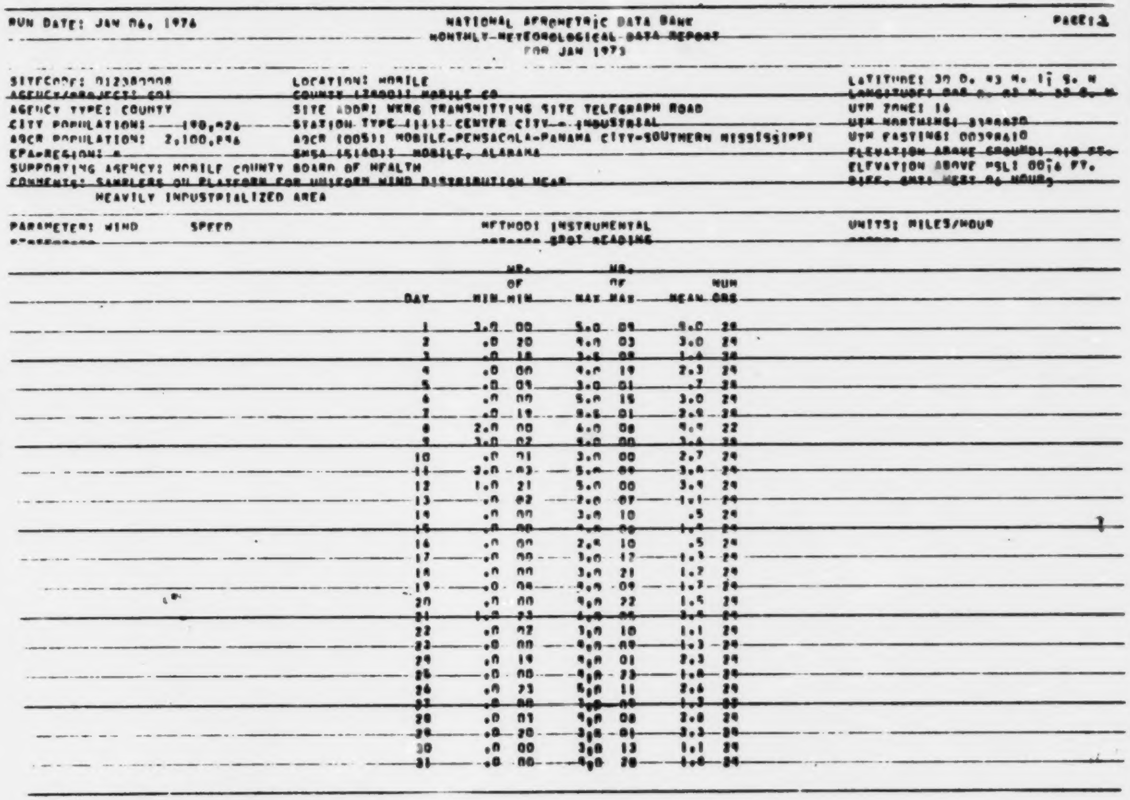
```
RUN DATE: JAN 06, 1976          NATIONAL AEROMETRIC DATA BANK                         PAGE:   1
                                MONTHLY METEOROLOGICAL DATA REPORT
                                          FOR JAN 1973

SITECODE: 012380F08             LOCATION: MOBILE                               LATITUDE: 30 D. 43 M. 11 S. N
AGENCY/PROJECT: G01             COUNTY (2900): MOBILE CO                       LONGITUDE: 088 D. 01 M. 32 S. W
AGENCY TYPE: COUNTY             SITE ADDR: WKRG TRANSMITTING SITE TELEGRAPH ROAD  UTM ZONE: 16
CITY POPULATION:    190,026     STATION TYPE (11): CENTER CITY - INDUSTRIAL    UTM NORTHING: 3398870
AQCR POPULATION:  2,100,994     AQCR (005): MOBILE-PENSACOLA-PANAMA CITY-SOUTHERN MISSISSIPPI  UTM EASTING: 0039861
EPA-REGION: 4                   SMSA (5160): MOBILE, ALABAMA                   ELEVATION ABOVE GROUND: 010 FT.
SUPPORTING AGENCY: MOBILE COUNTY BOARD OF HEALTH                               ELEVATION ABOVE MSL: 0016 FT.
COMMENTS: SAMPLERS ON PLATFORM FOR UNIFORM WIND DISTRIBUTION NEAR              DIFF. GMT: WEST 06 HOURS
          HEAVILY INDUSTRIALIZED AREA

PARAMETER: WIND     SPEED                   METHOD: INSTRUMENTAL               UNITS: MILES/HOUR
                                                    SPOT READING

                                                TIME
                                               ******
DAY  00  01  02  03  04  05  06  07  08  09  10  11  12  13  14  15  16  17  18  19  20  21  22  23  MEAN  NUM OBS
***
```

Figure 2.3.1-i. Meteorological Raw Data Report.



```
RUN DATE: JAN 06, 1976                  NATIONAL AEROMETRIC DATA BANK                                        PAGE:2
                                    MONTHLY-METEOROLOGICAL DATA REPORT
                                              FOR JAN 1973

SITECODE: 012380008             LOCATION: MOBILE                                          LATITUDE: 30 D. 43 M. 1 S. N
AGENCY/PROJECT: G01             COUNTY (2800): MOBILE CO                                  LONGITUDE: 088 D. 02 M. 32 S. W
AGENCY TYPE: COUNTY             SITE ADDR: WKRG TRANSMITTING SITE TELEGRAPH ROAD          UTM ZONE: 16
CITY POPULATION:      190,026   STATION TYPE (111): CENTER CITY - INDUSTRIAL              UTM NORTHING: 3398420
AQCR POPULATION:  2,100,846     AQCR (005): MOBILE-PENSACOLA-PANAMA CITY-SOUTHERN MISSISSIPPI  UTM EASTING: 00398410
EPA-REGION: 4                   SMSA (5160): MOBILE, ALABAMA                              ELEVATION ABOVE GROUND: 010 FT.
SUPPORTING AGENCY: MOBILE COUNTY BOARD OF HEALTH                                          ELEVATION ABOVE MSL: 0016 FT.
COMMENTS: SAMPLERS ON PLATFORM FOR UNIFORM WIND DISTRIBUTION NEAR                        DIFF. GMT: WEST 06 HOURS
          HEAVILY INDUSTRIALIZED AREA

PARAMETER: WIND      SPEED                        METHOD: INSTRUMENTAL                    UNITS: MILES/HOUR
                                                          SPOT READING

                                     HR.            HR.
                                     OF             OF              NUM
                         DAY    MIN  MIN      MAX   MAX     MEAN    OBS

                           1    3.0  00       5.0   09      4.0     24
                           2     .0  20       4.0   03      3.0     24
                           3     .0  18       3.6   08      1.4     24
                           4     .0  00       4.0   19      2.3     24
                           5     .0  09       3.0   01       .7     24
                           6     .0  00       5.0   15      3.0     24
                           7     .0  19       4.6   01      2.4     24
                           8    2.0  00       6.0   08      4.4     22
                           9    3.0  02       4.0   00      3.4     24
                          10     .0  01       3.0   00      2.7     24
                          11    2.0  03       5.0   00      3.6     24
                          12    1.0  21       5.0   00      3.4     24
                          13     .0  02       2.0   07      1.1     24
                          14     .0  00       3.0   10       .5     24
                          15     .0  00       4.0   09      1.4     24
                          16     .0  00       2.8   10       .5     24
                          17     .0  00       3.0   12      1.3     24
                          18     .0  00       3.0   21      1.7     24
                          19     .0  08       4.0   09      1.7     24
                          20     .0  00       4.0   22      1.5     24
                          21    1.0  23       4.0   06      3.4     24
                          22     .0  02       3.0   10      1.1     24
                          23     .0  00       4.0   09      1.3     24
                          24     .0  19       4.0   01      2.3     24
                          25     .0  00       4.0   23      1.4     24
                          26     .0  23       6.0   11      2.6     24
                          27     .0  00       3.0   00      1.3     24
                          28     .0  01       4.0   08      2.8     24
                          29     .0  20       3.0   01      3.3     24
                          30     .0  00       3.0   13      1.1     24
                          31     .0  00       4.0   20      1.4     24
```

Figure 2.3.1-j. Meteorological Raw Data Report.

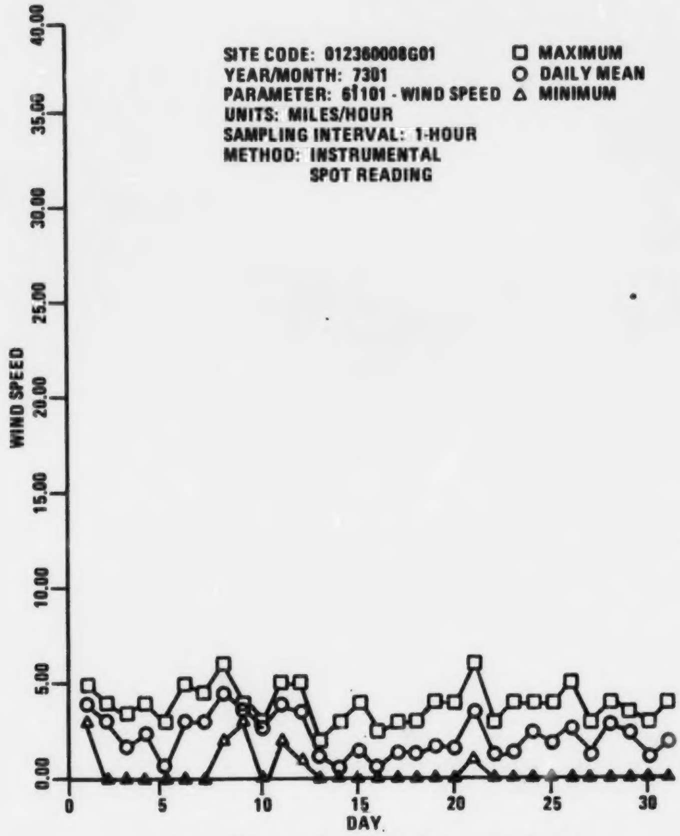


Figure 2.3.1-k. Meteorological raw data plot.

2.3.2.1 YEARLY FREQUENCY DISTRIBUTION

2.3.2.1.1 GENERAL DESCRIPTION

This report lists the standard site description and a frequency distribution by year for the data requested. The number of observations is given for each year for each pollutant, together with the minimum and maximum observed values of the pollutant concentration and certain percentile values. Also given are the sampling method, the sampling interval, and the units used. If the pollutant data meet NADB criteria for a given year, the arithmetic average, geometric mean, and geometric standard deviation are also presented for each such year.

2.3.2.1.2 RETRIEVALS AVALIABLE

This report may be retrieved using any of the selection criteria available with the SAROAD Standard Format Selection procedure, including AQCR. Thus, specific items may be stipulated as bases for retrieval as follows:

a. Geographical basis - nationwide, state, area (county or city), site, and AQCR. See paragraph 2.3.1.6.2 for restrictions on possible combinations of these selection factors.

b. Other basis - agency type, project classification, pollutant type, method of collection and analysis, sampling interval, units, and the desired time span specified by starting and ending dates. See paragraph 2.3.1.6.2 for restrictions on possible combinations of these selection parameters. "Method" may be used as a selection criterion only if "pollutant" is also so used.

2.3.2.1.3 SORTS AVAILABLE

Fourteen sort keys are available for specification by the user. A maximum of three sorts is possible in any given run. The "standard" sorting option used by NADB at the present time is a sort by Site Code, then by Pollutant-Method-Interval-Units, then by Date or Year-Quarter. The various sort options are:

Site Code
Agency/Project
State-Agency-Project
Project Code
AQCR
State-AQCR
AQCR-Area-Site-Agency-Project
Pollutant-Method-Units
Pollutant-Interval
Interval-Units
Pollutant-Method-Interval-Units
Units
Pollutant-Interval-Units
Date or Year-Quarter

2.3.2.1.4 SAMPLE REPORT

Figure 2.3.3.a shows a "Yearly Frequency Distribution" report for particulate, soiling index, and carbon monoxide at a site in the State of Rhode Island.

```
                                        NATIONAL AEROMETRIC DATA BANK
                                        YEARLY FREQUENCY DISTRIBUTION
                                         STATE (41): RHODE ISLAND

SITECODE: 410300005                  LOCATION: PROVIDENCE                                             LATITUDE: 41 D. 49 M. 54 S. N
AGENCY/PROJECT: F01                  COUNTY (0320): PROVIDENCE CO                                     LONGITUDE:  71 D. 24 M. 56 S. W
AGENCY TYPE: STATE                   SITE ADDR: STATE OFFICE BUILDING                                 UTM ZONE: 19
CITY POPULATION:     179,213         STATION TYPE (11): CENTER CITY - INDUSTRIAL                      UTM NORTHING: 4633700
AQCR POPULATION:  1,645,380          AQCR (120): METROPOLITAN PROVIDENCE                              UTM EASTING: 00299400
EPA-REGION: 1                        SMSA (6480): PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS             ELEVATION ABOVE GROUND: 050 FT.
SUPPORTING AGENCY: RHODE ISLAND DEPARTMENT OF HEALTH                                                  ELEVATION ABOVE MSL: 0100 FT.
COMMENTS: PROVIDENCE STATION 8                                                                        DIFF. GMT: WEST 05 HOURS
-------------------------------------------------------------------------------------------------------------------------------------
   POLLUTANT                                                        PERCENTILES                MAX        ARITH     GEOMETRIC
    POLLUTANT-METHOD CODE       NUM    MIN     10      30      50      70,   90    95      99     OBS        AVG     MEAN   STD DEV
     METHOD                     OBS    OBS
YEAR   INTERVAL AND UNITS
-------------------------------------------------------------------------------------------------------------------------------------
 73   PARTICULATE
       1110191                   51    21.     33.     40.     46.     64.  107.  130.    138.   138.        58.     51.99    1.59
        HI-VOL  GRAVIMETRIC
         24-HOUR    UG/CU METER (25 C)
 73   SOILING INDEX (TRANSMISSION)
       1120181                 4210    0.10    0.21    0.31    0.41    0.51  0.81  1.11    1.81   4.40        0.48     0.39    1.90
        TAPE SAMPLER  TRANSMITTANCE
         2-HOUR    COHS/1,000 LINEAR FT
 73   CARBON MONOXIDE
       4210111                 4126    0.3     0.7     1.2     1.8     3.0   4.1   5.3     7.0    19.5
        INSTRUMENTAL NONDISPERSIVE INFRA-RED
         1-HOUR   MG/CU METER (25 C)
```

Figure 2.3.2.a. Yearly Frequency Distribution Report

2.3.2.2 QUARTERLY FREQUENCY DISTRIBUTION

2.3.3.3.1 GENERAL DESCRIPTION

In this report, the standard site description appears at the top of each page (one or more pages per sampling site), followed by the same types of information as found in the yearly frequency distribution report (see 2.3.2.1.1 above).

Two versions of this report are available. In the first, the same type of columnar display is available as for the "Yearly Frequency Distribution" report (see 2.3.2.1.1) giving both the maximum observation and percentile values. In the second report type, the 99 percentile point is omitted and instead the second highest observation is printed. Thus the last two columns of this form are headed "2ND MAX" and "1ST MAX" rather than "99" (percentile) and "MAX OBS." The individual lines of the report are for each pollutant-quarter instead of each pollutant-year. The Sample Reports make this clear (see Figure 2.3.2.c).

2.3.2.2.2 RETRIEVALS AVAILABLE

Because this report also uses the SAROAD Standard Format Selection procedure, the same retrievals are available as enumerated in 2.3.3.1.2.

2.3.2.2.3 SORTS AVAILABLE

The same sorts are available for this report as are shown in paragraph 2.3.2.1.3, above.

2.3.2.2.4 SAMPLE REPORT

Figures 2.3.2.b and 2.3.2.c show samples of each report type. In the second example, the columns "2ND MAX" and "1ST MAX" contain the second highest and highest values, respectively.

```
                04-29-75                                    NATIONAL AEROMETRIC DATA BANK
                                                           QUARTERLY FREQUENCY DISTRIBUTION
                                                             STATE (03):  ARIZONA

SITECODE:  030160002                     LOCATION:  CLIFTON                                       LATITUDE:  33 D. 03 M. 44 S. N
AGENCY/PROJECT:  F02                     COUNTY(0380):  GREENLEE CO                               LONGITUDE:  109 D. 18 M. 18 S. W
AGENCY TYPE:  STATE                      SITE ADDR:  U S POST OFFICE N CORONADO BLVD              UTM ZONE:  12
CITY POPULATION:        5,087            STATION TYPE (11):  CENTER CITY - INDUSTRIAL             UTM NORTHING:  3655411
AQCR POPULATION:      127,288            AQCR (012):  ARIZONA-NEW MEXICO - SOUTHERN BORDER        UTM EASTING:  00658261
EPA-REGION:  9                           SMSA (0000) :                                            ELEVATION ABOVE GROUND:  004 FT.
SUPPORTING AGENCY: ARIZONA STATE DEPARTMENT OF HEALTH                                             ELEVATION ABOVE MSL:  3465 FT.
COMMENTS:  STARTED 9-69                                                                           DIFF. GMT: WEST 07 HOURS

-- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --
YEAR-QUARTER  POLLUTANT
    POLLUTANT-METHOD CODE                NUM      MIN                           PERCENTILES                        MA    ARITH    GEOMETRIC
     METHOD                              OBS      OBS     10     30     50       70     90     95     99     OBS    AVG   MEAN   STD DEV
      INTERVAL AND UNITS

-- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- -- --

  72-04 SULFUR DIOXIDE
      42400114                          1901      13.     30.    30.    30.      30.   220.   690.  2000.  3458.  109.  21.33     3.54
       INSTRUMENTAL COULOMETRIC
        1-HOUR    UG/CU METER  (25 C)

  72-03 SULFUR DIOXIDE
      42400114                          2021      13.     30.    30.    30.      30.    30.    30.   740.  7860.   37.  15.33     2.13
       INSTRUMENTAL COULOMETRIC
        1-HOUR    UG/CU METER  (25 C)

  72-02 SULFUR DIOXIDE
      42400114                           353      52.    110.   220.   270.     520.   790.  1050.  3410.  7860.
       INSTRUMENTAL COULOMETRIC
        1-HOUR    UG/CU METER  (25 C)
```

Figure 2.3.2.b. Quarterly Frequency Distribution Report

```
10-11-74                                    NATIONAL AEROMETRIC DATA BANK
                                            QUARTERLY FREQUENCY DISTRIBUTION
                                              STATE (36): OHIO

SITECODE: 360C60001            LOCATION: AKRON                                              LATITUDE: 41 D, 03 M, 57 S, N
AGENCY/PROJECT: A01            COUNTY (6500): SUMMIT CO.                                    LONGITUDE: 081 D, 31 M, 39 S. W.
AGENCY TYPE: EPA/ATMOS. SURV.  SITE ADDR: FIRE STATION NO 4 821 COBURN STREET               UTM ZONE: 17
CITY POPULATION:   275,425     STATION TYPE (33): RURAL - COMMERCIAL                        UTM NORTHING: 4545981
AQCR POPULATION: 3,372,486     AQCR (174): GREATER METROPOLITAN CLEVELAND                   UTM EASTING: 455680
EPA-REGION: 5                  SMSA (0080): AKRON, OHIO                                     ELEVATION ABOVE GROUND: 030 FT.
SUPPORTING AGENCY: CITY DEPARTMENT OF HEALTH                                                ELEVATION ABOVE MSL: 0992 FT.
COMMENTS:                                                                                   DIFF. GMT: WEST 05 HOURS

-------------------------------------------------------------------------------------------------------------------------------
YEAR-QUARTER POLLUTANT                                                                                                       *
     POLLUTANT-METHOD CODE    NUM   MIN                  PERCENTILES                 2ND    1ST    ARITH    GEOMETRIC
      METHOD                  OBS   OBS   10    30     50    70    90    95          MAX    MAX    AVG    MEAN   STD DEV
       INTERVAL AND UNITS
-------------------------------------------------------------------------------------------------------------------------------
72-01 PARTICULATE
     1110191                  7     24.   24.   41.    93.  103.  220.  220.         185.   220.   100.   74.43   2.37
      HI-VOL GRAVIMETRIC
       24-HOUR   UG/CU METER (25 C)

72-02 PARTICULATE
     1110191                  8     38.   38.   88.    99.  133.  153.  153.         140.   153.   107.   92.02   1.60
      HI-VOL GRAVIMETRIC
       24-HOUR   UG/CU METER (25 C)

72-03 PARTICULATE
     1110191                  7     92.   92.  126.   130.  140.  176.  176.         156.   176.   135.  132.76   1.33
      HI-VOL GRAVIMETRIC
       24-HOUR   UG/CU METER (25 C)

72-04 PARTICULATE
     1110191                  4     36.   36.   63.    63.   79.   80.   80.          79.    80.
      HI-VOL GRAVIMETRIC
       24-HOUR   UG/CU METER (25 C)

73-01 PARTICULATE
     1110191                  8     54.   54.   58.    60.  108.  133.  133.         127.   133.    82.   76.77   1.60
      HI-VOL GRAVIMETRIC
       24-HOUR   UG/CU METER (25 C)

73-02 PARTICULATE
     1110191                  6     54.   54.   83.    90.  106.  117.  117.         106.   117.    90.   87.87   1.31
      HI-VOL GRAVIMETRIC
       24-HOUR   UG/CU METER (25 C)

73-03 PARTICULATE
     1110191                  7     62.   62.   71.    78.   97.  180.  180.         137.   180.    96.   90.67   1.44
      HI-VOL GRAVIMETRIC
       24-HOUR   UG/CU METER (25 C)
```

Figure 2.3.2.c. Quarterly Frequency Distribution Report

2.3.2.3 YEARLY REPORT BY QUARTER

2.3.2.3.1 GENERAL DESCRIPTION

As with the Frequency Distribution Reports, this report lists the standard site description at the top of the page (see 2.3.2.1 for details of the page layout). In this report, however, the arrangement is somewhat different in that the individual data lines relate to specific year-pollutant-interval combinations and the righthand side of the page is devoted to a quarter-by-quarter breakdown of the number of observations and the arithmetic average for each quarter meeting the NADB criteria. The five columns in the middle of the page (between the pollutant-related information and the data for the individual quarters) contain, for each year-pollutant-interval combination, the percentage of possible observations, the arithmetic average and standard deviation, and the extreme (minimum and maximum) observations. If the data for an entire year fail to meet the NADB criteria, no data at all appear for that particular year-pollutant-interval combination.

2.3.2.3.2 RETRIEVALS AVAILABLE

This report also uses the SAROAD Standard Format Selection procedure; therefore, the comments given in paragraph 2.3.2.1.2 apply.

2.3.2.3.3 SORTS AVAILABLE

See paragraph 2.3.3.1.3.

2.3.2.3.4 SAMPLE REPORT

Figure 2.3.2.d shows a sample "Yearly Report by Quarters" for particulate, soiling index, and sulfur dioxide measured at a sampling site in Providence, Rhode Island.

```
              03-09 75                                    NATIONAL,AEROMETRIC DATA BANK
                                                            YEARLY REPORT BY QUARTERS
                                                            STATE (41):  RHODE ISLAND

SITECODE:  410300005                          LOCATION:  PROVIDENCE                                             LATITUDE :  41 D. 49 M. 54 S. N
AGENCY/PROJECT: F01                           COUNTY (03200) :  PROVIDENCE CO                                   LONGITUDE:  71 D. 24 M. 56 S. W
AGENCY TYPE:  STATE                           SITE ADDR:  STATE OFFICE BUILDING                                 UTM ZONE:  19
CITY POPULATION:     179,213                  STATION TYPE (11):  CENTER CITY - INDUSTRIAL                      UTM NORTHING: 4633700
AQCR POPULATION:   1,645,380                  AQCR (120):  METROPOLITAN PROVIDENCE                              UTM EASTING:  00299400
EPA-REGION:  1                                SMSA (6480):  PROVIDENCE-PAWTUCKET WARWICK, R.I.-MASS             ELEVATION ABOVE GROUND:  050 FT.
SUPPORTING AGENCY:  RHODE ISLAND DEPARTMENT OF HEALTH                                                           ELEVATION ABOVE MSL:  0100 FT.
COMMENTS:  PROVIDENCE STATION B                                                                                 DIFF. GMT:  WEST 05 HOURS

-------------------------------------------------------------------------------------------------------------------------------------------------
   POLLUTANT                                                                                                    QUARTER
    POLLUTANT-METHOD CODE            PERCENT OF                EXTREMES         FIRST            SECOND         THIRD          FOURTH
       METHOD                        POSSIBLE ARITHMETIC             MIN   MAX       NUM   ARITH      NUM   ARITH    NUM  ARITH    NUM   ARITH
YEAR      INTERVAL AND UNITS           OBS    AVERAGE STD DEV        OBS   OBS       OBS    AVG       OBS    AVG     OBS   AVG     OBS    AVG

-------------------------------------------------------------------------------------------------------------------------------------------------

73  PARTICULATE                                  58.    30.           21.   138.      16     72.       14   48.       13   58.      8     47.
     1110191
      HI-VOL  GRAVIMETRIC
       24-HOUR   UG/CU METER  (25 C)
73  SOILING INDEX (TRANSMISSION)
     1120181                    96             0.48   0.35           0.10     4.40 1062     0.58      1006  0.39   1066  0.40      1076  0.55
      TAPE SAMPLER  TRANSMITTANCE
        2-HOUR   CONS/1 ,000 LINEAR FT

73  SULFUR DIOXIDE
     4240111                    85               99.  104.            13.      956. 1682     127.      1982  65.    1930    71.     1877  137.
      INSTRUMENTAL WEST-GAEKE COLORIMETRIC
        1-HOUR   UG/CU METER  (25 C)
```

Figure 2.3.2.d. Yearly Report by Quarters

2.3.2.4 METEOROLOGICAL AND POLLUTANT SUMMARY STATISTICS PLOT

2.3.2.4.1 GENERAL DESCRIPTION

This report creates a plot on a CALCOMP plotter or a TEXTRONIX terminal of one of four different combinations of averages of quarterly means for up to 50 sites. The four different combinations are: (1) one meteorological parameter summarized over a specified time period, (2) one meteorological parameter and one pollutant summarized over a time period, (3) two meteorological parameters summarized over a time period, and (4) two meteorological parameters and one pollutant summarized over a time period.

The plot format has a title (at the top) that is supplied by the requestor. Under this title is a list of the sites used in the averages with space for a maximum of 12 sites. Under the site ID's is the list of pollutant-method-interval-units for the selected pollutants and/or parameters that are plotted.

The plot of the parameters and/or pollutant is given next with all parameters plotted on one axis system. The X-axis is utilized for the time scale and the Y-axis is utilized for the parameter or pollutant scale. The minimum scale value and the delta value may be supplied for each parameter or pollutant, or they will be calculated by the plot program.

2.3.2.4.2 RETRIEVALS AVAILABLE

The summary statistic plots are generated for any of the four combinations of parameters and/or pollutants as given above. The selection criteria required includes the specific parameters and/or pollutants, the site ID (state-area-site-agency-project) for up to 50 sites, and the time period required. The minimum scale value and the delta value may be specified or left to the computer to calculate.

2.3.2.4.3 SORTS AVAILABLE

No optional sorts are available. The plots are created in the same order as requested by the retrieval options.

2.3.2.4.4 SAMPLE REPORT

Figure 2.3.2.e shows an example of a plot of wind speed and direction for two sites. The absence of a plot for CO indicates that the pollutant was not reported.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** Report Capabilities	**SECTION** 2	**CHAPTER** 3	**SUBJECT** 2
NATIONAL AIR DATA BRANCH	**CHAPTER** Air Quality Data	**DATE** 2/17/76		**PAGE** 11
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** Summary Reports			

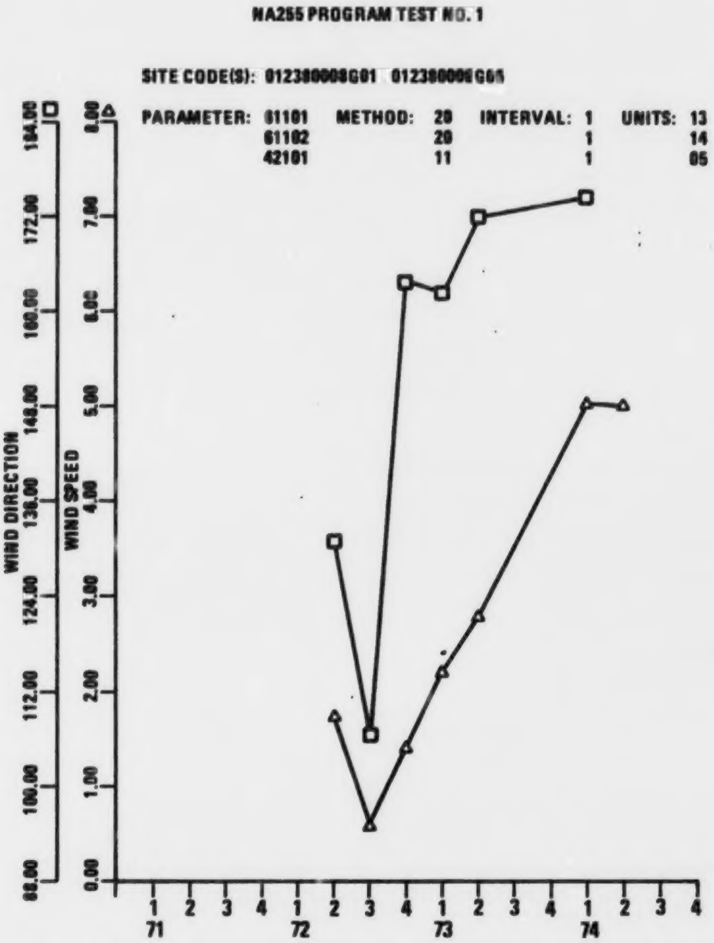


Figure 2.3.2.e. Meteorological and pollutant summary statistics plot.

2.3.2.5 METEOROLOGICAL AND POLLUTANT FREQUENCY, PERCENT FREQUENCY, AND PLOT REPORTS

2.3.2.5.1 GENERAL DESCRIPTION

This report creates two unique printouts and a plot on a CALCOMP plotter or TEXTRONIX terminal of two meteorological parameters or a meteorological parameter and a pollutant. The outputs give the frequency of occurrence and percentage frequency of occurrence between a dependent variable and an independent variable. The frequency of occurrence and percentage frequency of occurrence are given for value categories for the dependent and independent variables. Default value categories are included in the program for wind speed, wind direction, dry-bulb temperature, wet-bulb temperature, relative humidity, visibility, and precipitation; and the user must specify the minimum value, increment value, and the number of increments (up to 10) to create the value categories for all other parameters. Any parameter except wind direction may be the dependent variable, and any parameter may be the independent variable.

The program retrieves the specific dependent and independent variables for the site specified for a time period of one month to one year. The dependent and independent variables are sorted by site/month/day and a frequency of occurrence is tabulated for the various value categories. The percentage frequency of occurrence is computed after the frequency of occurrence has been completed.

The program will print the frequency of occurrence and the percentage frequency of occurrence of the dependent and independent variables and create an optional plot of the percentage frequency of occurrence.

A separate page of printout is created for the frequency and percentage frequency reports. The report title is given at the top of the page with the time span covered. Below the time span, a complete site description is printed for the specific site. Below the site description the value categories for the dependent variable are given on the first line and the value categories for the independent are given in the column on the left. The remainder of the report varies with the number of occurrence in each value category given on the frequency report and percentage frequency occurrence in each value category on the percent report. The last column and line give the total number or percent in each value category.

The plot will create a single plot of the total percentage frequency of occurrence of the dependent variable versus the independent variable and optional plots of any value categories of the dependent variable as specified by the requestor. The plot gives the site ID, location, time period, sampling interval, the name of the dependent variable, and value category at the top. The actual plot gives the value categories of the independent variable as the scale of the X-axis and the percentage frequency of occurrence as the Y-axis.

2.3.2.5.2 RETRIEVALS AVAILABLE

The user must specify the complete site ID; the dependent and independent variables; the year, month, or quarter; the sampling interval; the reports desired (printout and/or plot); the number of the value categories for the plot; and the minimum value, the increment value, and the number of increments (maximum of 10) to create value categories for parameters that have no default categories.

2.3.2.5.3 SORTS AVAILABLE

No optional sorts are available. The printed reports and plots are created in the same order as requested by the retrieval cards.

2.3.2.5.4 SAMPLE REPORT

Figure 2.3.2-f, 2.3.2-g and 2.3.2-h show examples of the frequency, percentage frequency, and plot of wind speed as the dependent variable, and wind direction as the independent variable for a site in Alabama in 1967.

```
RUN DATE: JAN 07, 1976                          NATIONAL AEROMETRIC DATA BANK                                               PAGE:    4
                                                       FRFQUENCY REPORT
                                                    01/01/67  TO  12/30/67

SITECODE: 011420001              LOCATION: JACKSON CO                                         LATITUDE: 35 D.  0 M. 14 S. N
AGENCY/PROJECT: HO2              COUNTY (1920): JACKSON CO                                    LONGITUDE:  85 D. 42 M. 56 S. W
AGENCY TYPE: FED NON-MILITARY    SITE ADDR: 3.5 MI NNE OF WIDOWS CREEK POWER PLANT            UTM ZONE: 16
CITY POPULATION:      39,282     STATION TYPF (32): RURAL - AGRICULTURAL                      UTM NORTHING: 3865710
AQCR POPULATION:     971,433     AQCR (007): TENNESSEE RIVER VALLFY-CUMBERLAND MOUNTAINS      UTM EASTING: 00617010
EPA-REGION: 4                    SMSA (0000):  0 NOT IN A STANDARD METROPOLITAN STATI         ELEVATION ABOVE GROUND: 004 FT.
SUPPORTING AGENCY: TENNESSEE VALLEY AUTHORITY                                                 ELEVATION ABOVE MSL: 0630 FT.
COMMENTS: INS WIDOWS CK STEAM PLANT,ACC RDBUS 72,N 3.6M ON US72,R,80 .4M,L,                  DIFF. GMT: WEST 06 HOURS
          00 1.1M,L .2M ST41-2 SO2 ELEV/OR 12' ST41 SET. PART 8' METEOR 44 '

INTERVAL:  1-HOUR
---------                                                   WIND      SPEFD
                                                            (KNOTS)

WIND        DIRECTION         UNDFR       4       8      13      19      25      32      39      47    OVER
(DEGREES, COMPASS)                       TO      TO      TO      TO      TO      TO      TO      TO
                                  4       8      13      19      25      32      39      47      55      55    TOTAL

        N                     1,728     131      23       0       0       0       0       0       0      59    1,941
        NNE                     262     115      20       0       0       0       0       0       0       0      397
        NE                      676      87       4       0       0       0       0       0       0       0      767
        ENE                   1,040     105       3       0       0       0       0       0       0       0    1,148
        E                       359       9       1       0       0       0       0       0       0       0      369
        ESE                     106       5       0       0       0       0       0       0       0       0      111
        SE                      169       4       0       0       0       0       0       0       0       0      173
        SSE                     216      48       7       0       0       0       0       0       0       0      271
        S                       232      46       6       0       0       0       0       0       0       0      284
        SSW                     277      67      18       3       0       0       0       0       0       0      365
        SW                      601     222      61      30       0       0       0       0       0       0      914
        WSW                     625     293      83      10       0       0       0       0       0       0    1,011
        W                       252      67      34       4       0       0       0       0       0       0      357
        WNW                     106      49      15       1       0       0       0       0       0       0      171
        NW                       94      60       4       0       0       0       0       0       0       0      158
        NNW                     134      64       5       0       0       0       0       0       0       0      203
        TOT                   6,877   1,372     284      48       0       0       0       0       0      59    8,640
```

Figure 2.3.2-f. Meteorological frequency report.

```
RUN DATE: JAN 07, 1976                              NATIONAL AEROMETRIC DATA BANK                                        PAGE:    8
                                                       PERCENT FREQUENCY REPORT
                                                        01/01/67  TO  12/30/67

SITECODE: 011920001              LOCATION: JACKSON CO                                          LATITUDE: 35 D.  8 M. 19 S. N
AGENCY/PROJECT: N02              COUNTY (1920): JACKSON CO                                     LONGITUDE:  85 D. 42 M. 56 S. W
AGENCY TYPE: FED NON-MILITARY    SITE ADDR: 3.5 MI NNE OF WIDOWS CREEK POWER PLANT             UTM ZONE: 16
CITY POPULATION:      39,207     STATION TYPE (32): RURAL - AGRICULTURAL                       UTM NORTHING: 3865710
AQCR POPULATION:     971,433     AQCR (007): TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS       UTM EASTING: 00617010
EPA-REGION: 4                    SMSA (0000):  0 NOT IN A STANDARD METROPOLITAN STATI          ELEVATION ABOVE GROUND: 009 FT.
SUPPORTING AGENCY: TENNESSEE VALLEY AUTHORITY                                                  ELEVATION ABOVE MSL: 0670 FT.
COMMENTS: INS WIDOWS CK STEAM PLANT,ACC ROBUS 72,N 3.6M ON US72,R,00 .4M,L,                   DIFF. GMT: WEST 06 HOURS
          00 1.1M,L .2M ST41-2 SO2 ELEV/OR 12' ST41 SFT. PART 8' METEOR 49 '

INTERVAL:  1-HOUR
---------
                                                             WIND       SPEED
                                                            (KNOTS)

WIND       DIRECTION       UNDER        4        8       13       19       25       32       39       47      OVER
(DEGREES,  COMPASS)                    TO       TO       TO       TO       TO       TO       TO       TO
                              4         8       13       19       25       32       39       47       55        55     TOTAL

            N               .20       .02      .00      .00      .00      .00      .00      .00      .00       .01       .22

            NNE             .03       .01      .00      .00      .00      .00      .00      .00      .00       .00       .05

            NE              .08       .01      .00      .00      .00      .00      .00      .00      .00       .00       .09

            ENE             .12       .01      .00      .00      .00      .00      .00      .00      .00       .00       .13

            E               .04       .00      .00      .00      .00      .00      .00      .00      .00       .00       .04

            ESE             .01       .00      .00      .00      .00      .00      .00      .00      .00       .00       .01

            SE              .02       .00      .00      .00      .00      .00      .00      .00      .00       .00       .02

            SSE             .03       .01      .00      .00      .00      .00      .00      .00      .00       .00       .03

            S               .03       .01      .00      .00      .00      .00      .00      .00      .00       .00       .03

            SSW             .03       .01      .00      .00      .00      .00      .00      .00      .00       .00       .04

            SW              .07       .03      .01      .00      .00      .00      .00      .00      .00       .00       .11

            WSW             .07       .03      .01      .00      .00      .00      .00      .00      .00       .00       .12

            W               .03       .01      .00      .00      .00      .00      .00      .00      .00       .00       .04

            WNW             .01       .01      .00      .00      .00      .00      .00      .00      .00       .00       .02

            NW              .01       .01      .00      .00      .00      .00      .00      .00      .00       .00       .02

            NNW             .02       .01      .00      .00      .00      .00      .00      .00      .00       .00       .02

            TOT             .80       .15      .03      .01      .00      .00      .00      .00      .00       .01      1.00
```

Figure 2.3.2-g. Meteorological percentage frequency report.

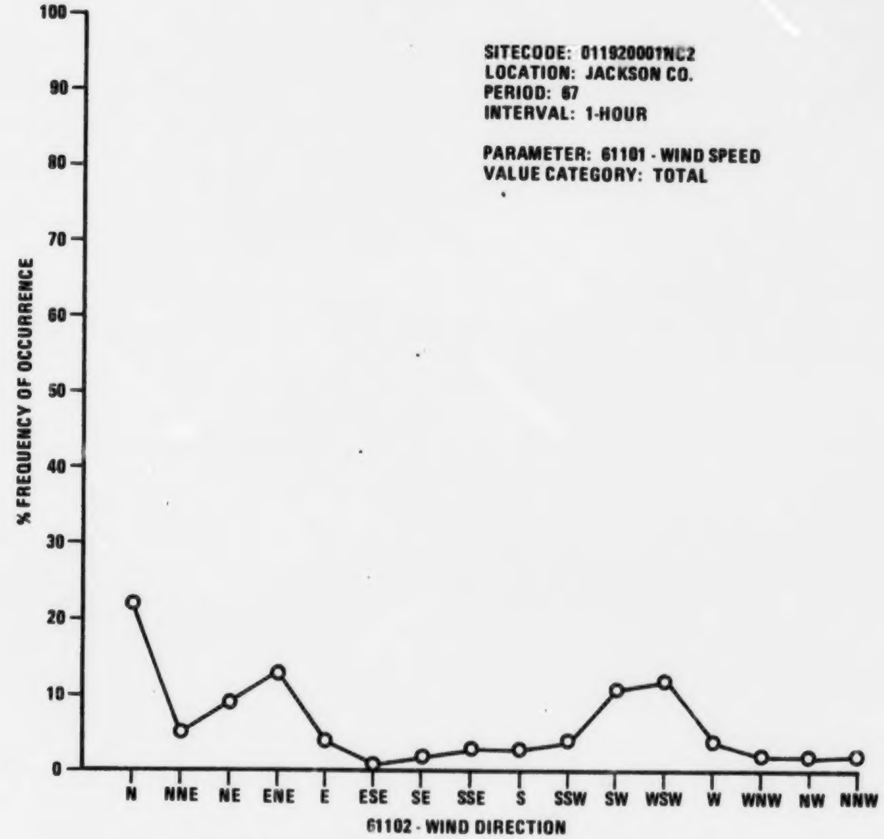


Figure 2.3.2-h. Meteorological percentage frequency plot.

2.3.3.1 INVENTORY BY SITE

2.3.3.1.1 GENERAL DESCRIPTION

This report lists, for each state specified, 11 columns of information with one line of data for each unique combination of the following data elements:

a. Site Code (9-digit numeric)
b. Agency/Project Codes (1 alpha, 2 numeric)
c. Location Name (alpha)
d. Pollutant Name (alpha)
e. Pollutant/Method Codes (7 digit numeric combined code)
f. Interval Code (1 numeric)
g. Units Code (2-digit numeric)
h. Year (4-digit number)
i. Number of Observations (numeric)
j. Maximum Observations (numeric)
k. Arithmetic Mean (numeric)

Meanings of all of the above codes are given in Volume V of the AEROS manual.

The data parameters that establish or specify a line of printout constitute the first eight columns of the report page, or items a through h in the above enumeration of the data elements. The arithmetic mean is given for all data with an asterisk marking the values that were obtained from data not meeting minimum summary criteria (see Section 2.3.0).

2.3.3.1.2 RETRIEVALS AVAILABLE

Selections are limited to nationwide, EPA region, or state geographical parameters.

2.3.3.1.3 SORTS AVAILABLE

The data are sorted by Site ID, then by pollutant type within Site. No sort options are available for this report.

2.3.3.1.4 SAMPLE REPORT

Figure 2.3.3.a shows a portion or a retrieval for the State of Rhode Island.

2.3.3.1.5 REMARKS

The Inventory by Site lists for each site the number of years for which data are available for each pollutant. For each year, the number or observations and the maximum observed value are printed out. Because this report is sorted by pollutant within Site ID Number, it is most useful when information on a particular site or sites is desired.

```
05-08-75                                NATIONAL AEROMETRIC DATA BANK                                    ID:A41
                                            INVENTORY BY SITE
                                              RHODE ISLAND

------------------------------------------------------------------------------------------------------------
 SITE       AG/       LOCATION                       POLLUTANT             POL-MTH   INT   UNIT  YEAR  NUM    MAX       ARITH
 CODE       PRJ       NAME                           NAME                  CODE      CODE  CODE        OBS    OBS       MEAN
------------------------------------------------------------------------------------------------------------
410040001  F01   BRISTOL                      PARTICULATE                 1110191    7     01   1971   39    177.       62.
                                                                                      7     01   1972   61    101.       40.
                                                                                      7     01   1973   59    267.       43.
                                                                                      7     01   1974   33     91.
410065001  F01   BURRILLVILLE                 PARTICULATE                 1110191    7     01   1971   43     90.       47.
                                                                                      7     01   1972   54    143.       38.
                                                                                      7     01   1973   59    128.       33.
                                                                                      7     01   1974   30     85.
410090001  F01   CHARLESTOWN                  PARTICULATE                 1110191    7     01   1971   47    253.       48.
                                                                                      7     01   1972   60     88.       26.
                                                                                      7     01   1973   17     58.
                                              SULFUR DIOXIDE              4240191    7     01   1971   25    106.
                                                                                      7     01   1972   54     84.       25.
```

Figure 2.3.3.a. Inventory by Site Report

2.3.3.2 INVENTORY BY POLLUTANT

2.3.3.2.1 GENERAL DESCRIPTION .

The format of the output is, in part, identical to that of the Inventory by Site Report as described in paragraph 2.3.3.1.1. Both reports contain a total of 11 columns of data and the six righthand columns contain the same types of information; that is, Interval Code, Units Code, Year, Number of Observations, the Maximum Observation, and the Arithmetic Mean. The lefthand side of the report essentially reverses the order of presentation of the data, because this report is by pollutant rather than by site. Thus, the valid date of the information still appears in the upper lefthand corner of the page, but the heading reads "Inventory by Pollutant" rather than "Inventory by Site," and the next line contains the name of the pollutant instead of the name of the state. (See the following report writeup for an exception to this.) In both reports, the page number appears in the upper righthand corner. In this report, the five lefthand columns contain, respectively, the Pollutant/Method Code, the Pollutant Name, the Site Code, the Agency/Project Code, and the Location Name.

2.3.3.2.2 RETRIEVALS AVAILABLE

Selection by nation, EPA region, state, and by pollutant is possible.

2.3.3.2.3 SORTS AVALIABLE

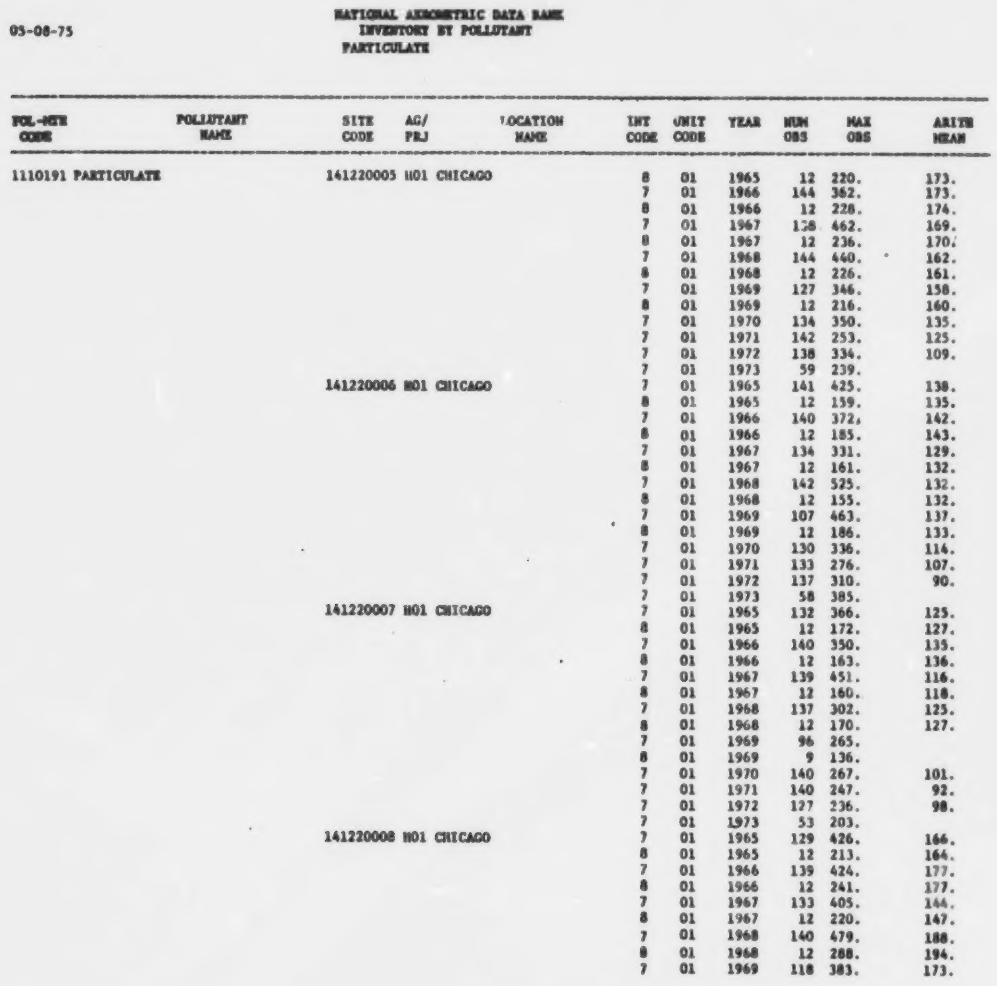
The data are sorted by pollutant, then by state and area. No other sort options are available.

2.3.3.2.4 SAMPLE REPORT

Figure 2.3.3.b shows a portion of the inventory report for particulate measurements in Chicago, Illinois.

2.3.3.2.5 REMARKS

The Inventory by Pollutant lists, for each pollutant-method combination, the number of years for which data are available for each sampling site. For each year, the number of observations and the maximum value observed are printed out. Because this report is sorted by site ID code within pollutant type, it is most useful when information on a particular pollutant or pollutant-method combination is desired.



```
05-08-75                                   NATIONAL AEROMETRIC DATA BANK
                                              INVENTORY BY POLLUTANT
                                             PARTICULATE

------------------------------------------------------------------------------------------------------------
POL-MTH            POLLUTANT            SITE     AG/          LOCATION       INT   UNIT   YEAR   NUM   MAX      ARITH
 CODE                NAME               CODE     PRJ            NAME         CODE  CODE          OBS   OBS      MEAN
------------------------------------------------------------------------------------------------------------

1110191 PARTICULATE                   141220005 H01 CHICAGO                   8    01    1965    12  220.       173.
                                                                              7    01    1966   144  362.       173.
                                                                              8    01    1966    12  228.       174.
                                                                              7    01    1967   138  462.       169.
                                                                              8    01    1967    12  236.       170.
                                                                              7    01    1968   144  440.       162.
                                                                              8    01    1968    12  226.       161.
                                                                              7    01    1969   127  346.       158.
                                                                              8    01    1969    12  216.       160.
                                                                              7    01    1970   134  350.       135.
                                                                              7    01    1971   142  253.       125.
                                                                              7    01    1972   138  334.       109.
                                                                              7    01    1973    59  239.
                                      141220006 H01 CHICAGO                   7    01    1965   141  425.       138.
                                                                              8    01    1965    12  159.       135.
                                                                              7    01    1966   140  372.       142.
                                                                              8    01    1966    12  185.       143.
                                                                              7    01    1967   134  331.       129.
                                                                              8    01    1967    12  161.       132.
                                                                              7    01    1968   142  525.       132.
                                                                              8    01    1968    12  155.       132.
                                                                              7    01    1969   107  463.       137.
                                                                              8    01    1969    12  186.       133.
                                                                              7    01    1970   130  336.       114.
                                                                              7    01    1971   133  276.       107.
                                                                              7    01    1972   137  310.        90.
                                                                              7    01    1973    58  385.
                                      141220007 H01 CHICAGO                   7    01    1965   132  366.       125.
                                                                              8    01    1965    12  172.       127.
                                                                              7    01    1966   140  350.       135.
                                                                              8    01    1966    12  163.       136.
                                                                              7    01    1967   139  451.       116.
                                                                              8    01    1967    12  160.       118.
                                                                              7    01    1968   137  302.       125.
                                                                              8    01    1968    12  170.       127.
                                                                              7    01    1969    96  265.
                                                                              8    01    1969     9  136.
                                                                              7    01    1970   140  267.       101.
                                                                              7    01    1971   140  247.        92.
                                                                              7    01    1972   127  236.        98.
                                                                              7    01    1973    53  203.
                                      141220008 H01 CHICAGO                   7    01    1965   129  426.       166.
                                                                              8    01    1965    12  213.       164.
                                                                              7    01    1966   139  424.       177.
                                                                              8    01    1966    12  241.       177.
                                                                              7    01    1967   133  405.       144.
                                                                              8    01    1967    12  220.       147.
                                                                              7    01    1968   140  479.       188.
                                                                              8    01    1968    12  288.       194.
                                                                              7    01    1969   118  383.       173.
```

Figure 2.3.3.b. Inventory By Pollutant Report

2.3.3.3 STATE INVENTORY BY POLLUTANT

2.3.3.3.1 GENERAL DESCRIPTION

This report is identical to that last described (see 2.3.3.2) except that it is for a single state. Accordingly, the title line reflects this difference and the name of the state appears in the heading; otherwise the same format is used as for the Inventory by Pollutant Report.

2.3.3.3.2 RETRIEVALS AVAILABLE

Same as for the Inventory by Pollutant Report (see 2.3.3.2.2).

2.3.3.3.3 SORTS AVAILABLE

The data are sorted by state, then by pollutant area. No other sort options are available.

2.3.3.3.4 SAMPLE REPORT

Figure 2.3.3.c shows a portion of the inventory report for particulates measured in Chicago, Illinois.

2.3.3.3.5 REMARKS

The content and format of this report are identical to those for the preceding report except that the data are for a single state only. Therefore, this report is of greatest value when information on a certain pollutant of pollutants is desired for a single state.

```
05-08-75                               NATIONAL AEROMETRIC DATA BANK                                      ID:841
                                       STATE INVENTORY BY POLLUTANT
                                                 ILLINOIS
--------------------------------------------------------------------------------------------------------------------
POL-MTH       POLLUTANT          SITE      AG/        LOCATION          INT  UNIT  YEAR  NUM    MAX         ARITH
 CODE           NAME             CODE      PRJ          NAME            CODE CODE        OBS    OBS          MEAN
--------------------------------------------------------------------------------------------------------------------
1110191 PARTICULATE            141220002  A10  CHICAGO                   7   01   1971   137  448.          184.
                                                                         7   01   1972   132  897.          169.
                               141220003  H01  CHICAGO                   7   01   1965   143  355.           98.
                                                                         8   01   1965    12  120.           99.
                                                                         7   01   1966   143  357.          105.
                                                                         8   01   1966    12  120.          100.
                                                                         7   01   1967   136  295.           81.
                                                                         8   01   1967    12   96.           82.
                                                                         7   01   1968   138  497.          100.
                                                                         8   01   1968    12  124.          100.
                                                                         7   01   1969   116  114.           98.
                                                                         8   01   1969    12  121.           96.
                                                                         7   01   1970   138  292.           89.
                                                                         7   01   1971   134  229.           85.
                                                                         7   01   1972   139  295.           78.
                                                                         7   01   1973    57  225.
```

Figure 2.3.3.c. State Inventory by Pollutant .

2.3.3.4 SUMMARY REPORT OF VALID DATA

2.3.3.4.1 GENERAL DESCRIPTION

This report uses information in the Quarterly Summary File to produce a tabulation by State, AQCR, and Area (County or City) of coded information, one line for each Site-Pollutant combination, indicating the quantity of data reported for particulates, sulfur dioxide, NO_x, CO, HC, OX, and TOX. The time period of interest, which is specified by the user, can be from 1 to 5 years. For each quarter or the year or years for which data were requested, a column of coded data appears. The codes, together with their meanings, are as follows:

a. "0" means "No Data"
b. "1" means "Data do not meet Summary Criteria"
c. "2" means "Data do meet Summary Criteria"

The "SITE" and "POLLUTANT" columns contain codes for Agency Type and Project Classification (under "SITE") and for Method of Collection and Analysis and Time Interval (or Period of Observation) (under "POLLUTANT"). The meanings for these codes are given in Volume V of the AEROS Manual.

2.3.3.4.2 RETRIEVALS AVAILABLE

Retrieval may be by the entire nation, for a single state, or by area (that is, city or county), site, agency, or project classification, or any combination of these. If no particular item is specified in one or more of the selection fields, all of the possible items in that field or fields will be retrieved.

2.3.3.4.3 SORTS AVAILABLE

The standard sorting hierarchy is by state, AQCR, area, site number, agency type, project classification code, pollutant type, method code, and time interval, all in ascending numerical or alphabetical order. No options for alternative sorting sequences are avaliable to the user.

2.3.3.4.4 SAMPLE REPORT

Figure 2.3.3.d shows a sample of the "Summary Report of Valid Data" for the State of Rhode Island.

```
05-13-75
--------------------------------------
!0=NO DATA                           !
!1=DATA DO NOT MEET SUMMARY CRITERIA!
!2=DATA DO MEET SUMMARY CRITERIA *   !
--------------------------------------
                                                 SUMMARY REPORT OF VALID DATA                                                    PAGE   1
                                                 NATIONAL AEROMETRIC DATA BANK
                                                 STATE (41): RHODE ISLAND
                                                                                                                                        T
                                                                                                                                        O
                                        SITE     POLLUTANT    . 1970          1971          1972          1973          1974            T
                                      AG/PROJ    METH/INT   -----------   -----------   -----------   -----------   -----------          A
AQCR             AREA                   CODE       CODE     I II III IV   I II III IV   I II III IV   I II III IV   I II III IV          L

 120    BRISTOL                       001/F01    TSP-91/7   0  0  0  0    2  2  2  2    2  2  2  2    2  2  2  2    1  2  2  0          14
 120    BURRILVILLE                   001/F01    TSP-91/7   0  0  0  0    2  2  2  2    2  2  2  2    2  2  2  2    1  2  2  0          14
 120    CHARLESTOWN                   001/F01    TSP-91/7   0  0  0  0    2  2  2  2    2  2  2  2    2  1  0  0    0  0  0  0           9
 120    CHARLESTOWN                   001/F01    SO2-91/7   0  0  0  0    0  0  2  2    2  2  2  2    2  1  0  0    0  0  0  0           7
 120    CHARLESTOWN                   001/f01    NO2-91/7   0  0  0  0    0  0  2  2    2  2  2  2    2  1  0  0    0  0  0  0           7
 120    CRANSTON                      001/F01    TSP-9177   0  0  0  0    2  2  2  2    2  2  2  2    2  2  2  2    1  1  1  0          12
 120    CRANSTON                      001/F01    SO2-91/7   0  0  0  0    2  2  2  2    2  2  2  2    2  2  2  2    1  2  2  0          14
 120    CRANSTON                      001/F01    NO2-84/7   0  0  0  0    0  0  0  0    0  0  0  0    0  0  0  2    1  2  1  0           2
 120    CRANSTON                      001/F01    NO2-91/7   0  0  0  0    2  2  2  2    2  2  2  2    2  2  2  0    0  0  0  0          11
```

Figure 2.3.3.d. Summary Report of Valid Data

2.3.3.5 SUMMARY OF MONITORING ACTIVITY

2.3.3.5.1 GENERAL DESCRIPTION

This report uses information in the Quarterly Summary File to produce a tabulation by state and AQCR for the selected pollutants of the numbers of sites meeting the summary criteria for the quarter selected for study. (The minimum summary criteria are defined in Section 2.3.0.) The result in a nationwide report sorted by AQCR within states for all 55 "states". Each state has its own page in the report, with each AQCR within the state occupying one line of data. There is also a "Total" line at the bottom of each page, but no grand total; that is, only the totals for each state are given.

For each of the pollutant-sampling period combinations, three columns of data are given; these columns are headed "REQ", "PRO," and "RPT," meaning, respectively, "Required by EPA," "Proposed in the State Implementation Plan (SIP) for 1974," and "Reporting to the National Aerometric Data Bank - Based on Quarter X of 197X Data." In the example, the seven possible pollutant-averaging period combinations are:

a. "TSP" (Total Suspended Particulates)
b. "SO2-DAILY"
c. "SO2-HOURLY"
d. "NO2-DAILY"
e. "NO2-HOURLY"
f. "CO-HOURLY"
g. "OX-HOURLY"

2.3.3.5.2 RETRIEVALS AVAILABLE

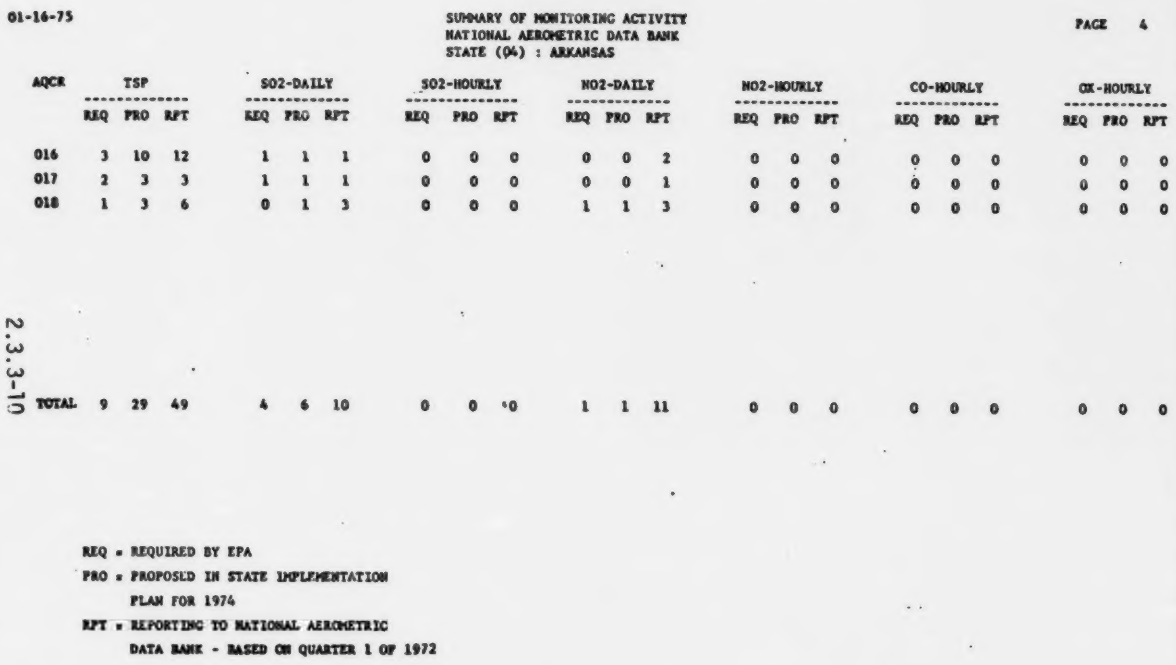
The report is available only on a nationwide basis at present. The time period is specified by Year and Quarter; for example, 7301, 7404, etc. The data satisfying the summary criteria are tallied by monitoring site for a single quarter of the given calendar year. If data for more than one quarter are needed, a separate run must be made for each quarter.

2.3.3.5.3 SORTS AVAILABLE

As stated in paragraph 2.3.3.5.1, the report is sorted by state and AQCR. This is accomplished under program control, and no other sorts may be specified by the user.

2.3.3.5.4 SAMPLE REPORT

Figure 2.3.3.e shows a portion of this summary report for the State of Arkansas.



```
01-16-75                              SUMMARY OF MONITORING ACTIVITY                    PAGE   4
                                      NATIONAL AEROMETRIC DATA BANK
                                      STATE (04) : ARKANSAS

AQCR       TSP           SO2-DAILY      SO2-HOURLY      NO2-DAILY      NO2-HOURLY      CO-HOURLY       OX-HOURLY
      -------------   -------------   -------------   -------------   -------------   -------------   -------------
      REQ  PRO  RPT   REQ  PRO  RPT   REQ  PRO  RPT   REQ  PRO  RPT   REQ  PRO  RPT   REQ  PRO  RPT   REQ  PRO  RPT

016    3   10   12     1    1    1     0    0    0     0    0    2     0    0    0     0    0    0     0    0    0
017    2    3    3     1    1    1     0    0    0     0    0    1     0    0    0     0    0    0     0    0    0
018    1    3    6     0    1    3     0    0    0     1    1    3     0    0    0     0    0    0     0    0    0



TOTAL  9   29   49     4    6   10     0    0    0     1    1   11     0    0    0     0    0    0     0    0    0


     REQ = REQUIRED BY EPA
     PRO = PROPOSED IN STATE IMPLEMENTATION
           PLAN FOR 1974
     RPT = REPORTING TO NATIONAL AEROMETRIC
           DATA BANK - BASED ON QUARTER 1 OF 1972
```

Figure 2.3.3.e. Summary of Monitoring Activity Report

2.3.3.6 ACTIVE SITE REPORT

2.3.3.6.1 GENERAL DESCRIPTION

This report consists of a sorted inventory of sites that have reported SAROAD data during a specified time interval. The report is made up of a series of subreports, one for each site, each of which contains a description of the site and summaries of the pollutants measured, methods used, time intervals, units, and numbers of observations reported. Because both retrieval and sorting are under the control of the user, the entries for each site may be different in content and arrangement, although provision may be made for only one type of sorting hierarchy in a single run.

2.3.3.6.2 RETRIEVALS AVAILABLE

There are 10 key items upon which retrieval may be made in this report. These retrieval items are: state, area, site, agency type, project classification, pollutant type, method of collection and analysis, sampling interval, AQCR, and starting and ending dates. Certain combinations of selection keys are prohibited. For example, a site key may be entered only if an area key is also entered, and an area key may be entered only if a state key is also entered. Similarly, a project classification code may be included only if an agency type is also specified, and a method of collection and analysis may be specified only if a pollutant type is also specified. All other combinations may be considered as valid retrievals. The period of interest is specified by year and quarter for the starting and ending dates; for example, "7302 7304" or "6801 7204" would be valid ways of specifying the desired retrieval period. Codes for the various retrieval items are given in Volume V of the AEROS Manual.

2.3.3.6.3 SORTS AVAILABLE

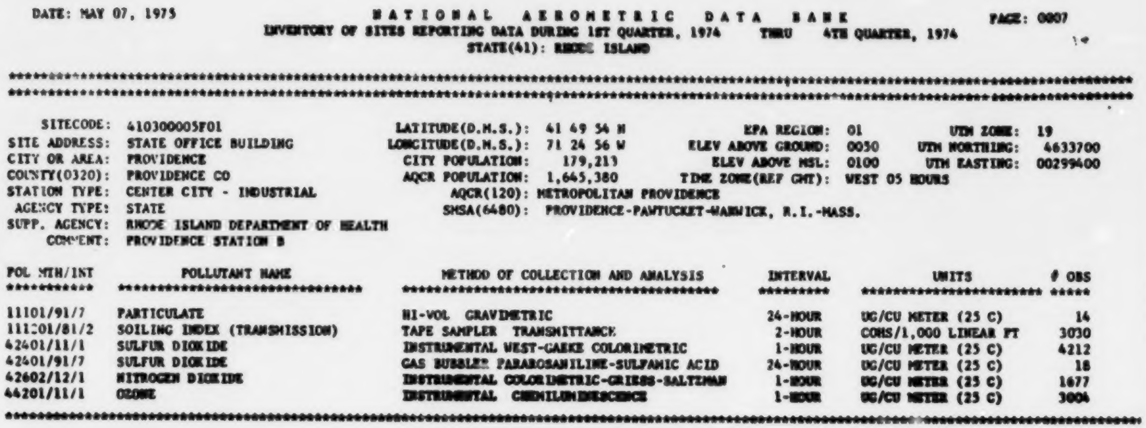
The selected sites may be sorted in a variety of ways before the report is printed out. The six possible codes available for use are:

a. Ascending key STATE
b. Ascending key AREA
c. Ascending key SITE
d. Ascending key AGENCY
e. Ascending key PROJECT
f. Ascending key AQCR

The sort codes may be entered in any order, and the order determines the sorting hierarchy; that is, the first code entered will determine the primary sort, the second one will determine the secondary sort, and so on. There are only two restrictions on the use of the sort codes: at least one sort code must be specified, and each sort code may appear only once for a given run.

2.3.3.6.4 SAMPLE REPORT

Figure 2.3.3.f shows a portion of the inventory report for the State of Rhode Island.



```
   DATE: MAY 07, 1975                  N A T I O N A L   A E R O M E T R I C   D A T A   B A N K                 PAGE: 0007
                              INVENTORY OF SITES REPORTING DATA DURING 1ST QUARTER, 1974    THRU   4TH QUARTER, 1974
                                                    STATE(41): RHODE ISLAND

**************************************************************************************************************************
**************************************************************************************************************************

     SITECODE:  410300005F01                  LATITUDE(D.M.S.):  41 49 54 N            EPA REGION:  01          UTM ZONE:  19
 SITE ADDRESS:  STATE OFFICE BUILDING        LONGITUDE(D.M.S.):  71 24 56 W     ELEV ABOVE GROUND:  0050     UTM NORTHING:   4633700
 CITY OR AREA:  PROVIDENCE                     CITY POPULATION:    179,213         ELEV ABOVE MSL:  0100      UTM EASTING:  00299400
 COUNTY(0320):  PROVIDENCE CO                  AQCR POPULATION:  1,645,380     TIME ZONE(REF GMT):  WEST 05 HOURS
 STATION TYPE:  CENTER CITY - INDUSTRIAL             AQCR(120): METROPOLITAN PROVIDENCE
  AGENCY TYPE:  STATE                                SMSA(6480):  PROVIDENCE-PAWTUCKET-WARWICK, R.I.-MASS.
 SUPP. AGENCY:  RHODE ISLAND DEPARTMENT OF HEALTH
      COMMENT:  PROVIDENCE STATION B

 POL MTH/INT          POLLUTANT NAME                 METHOD OF COLLECTION AND ANALYSIS        INTERVAL             UNITS            # OBS
 ***********   *****************************     ************************************       *********    ************************* *****

 11101/91/7    PARTICULATE                       HI-VOL  GRAVIMETRIC                         24-HOUR     UG/CU METER (25 C)           14
 111201/81/2   SOILING INDEX (TRANSMISSION)      TAPE SAMPLER  TRANSMITTANCE                  2-HOUR     COHS/1,000 LINEAR FT       3030
 42401/11/1    SULFUR DIOXIDE                    INSTRUMENTAL WEST-GAEKE COLORIMETRIC          1-HOUR     UG/CU METER (25 C)         4212
 42401/91/7    SULFUR DIOXIDE                    GAS BUBBLER PARAROSANILINE-SULFAMIC ACID     24-HOUR     UG/CU METER (25 C)           18
 42602/12/1    NITROGEN DIOXIDE                  INSTRUMENTAL COLORIMETRIC-GRIESS-SALTZMAN     1-HOUR     UG/CU METER (25 C)         1677
 44201/11/1    OZONE                             INSTRUMENTAL  CHEMILUMINESCENCE               1-HOUR     UG/CU METER (25 C)         3004
**************************************************************************************************************************
```

Figure 2.3.3.f. Active Site Report

Because of the importance in many fields of activity of the air quality data in the SAROAD system, information is required on the quality of those data. QAMIS is an interim system designed to evaluate the existing networks of ambient air quality monitoring sites as the present efforts toward quality control are actually being carried out. The initial purpose was to ascertain the quality control activities of the various agencies that collect ambient air quality data, analyze the data collected, convert the data to SAROAD format, and submit the data to NADB for entry into the SAROAD system. As it is presently organized, the QAMIS system provides NADB with the ability to analyze and summarize quality assurance information and relate it to specific categories of data within the SAROAD system, such as sites, agencies, methods of collection and analysis, etc. QAMIS data collected in early 1974 for only a portion of the agencies, labs, sites, and pollutants in SAROAD. There are no current plans to update the QAMIS files.

The QAMIS data file is organized into agency, laboratory, and site information. The two basic types of reports are the Data Reports and the QCI (Quality Control Index) Reports. The data report includes the QCI data for each agency, laboratory or site. The QCI report contains agency, laboratory, or site ID number and address as well as the QCI scoring report. Each of the 17 reports available through the QAMIS system consists of responses to a set of from 8 to 18 questions, some of which are divided into two or three subparts. Thus, a questionnaire may comprise as many as 23 technical and management questions. The Data Reports include printouts of both the questions and the answers.

The QCI data consist of a numerical score and a letter grade assigned to the answers furnished by the respondee to the questionnaires. A scoring and weighing system is used by NADB to arrive at a quantitative evaluation or indication of the quality of the data produced by a given agency, site, or laboratory. The goal is to have as objective a method as possible for grading the monitoring activities of each agency.

A numerical score ranging in value from 0 to 100 is assigned to each response to a questionnaire, and weighing factors between 1 and 4 are preassigned to each of the questions. The scoring values are also predetermined, and vary depending upon the particular questionnaire being graded. The standard arrangement for the assignment of letter grades to the results of the questionnaires is as follows:

A = 85 and above
B = 70-84
C = 60-69
D = 50-59
F = less than 50

For laboratory-dependent method codes, a pollutant/laboratory score ratio is also included for greater sophistication in grading the questionnaire responses. The standard ratio (if no other values are assigned) is 50/50; like the weighing factors and the grade scales (letter grade breakpoints), the pollutant/laboratory score ratios may be changed as desired. Regular procedures exist for this purpose. Because all eight questionnaires are different from one another, the scoring tables for each are unique. The Opinion Poll is not graded; therefore, no scoring table exists for this questionnarie.

In summary, the system includes provisions for changing the QCI's based on new or revised weighing factors, grading scales, and pollutant/laboratory score ratios.

A single report may be requested, or multiple requests may be made in a single run. In addition to the 17 specific reports discussed in more detail in the following paragraphs, a "Dump" of all data in the QAMIS File may also be requested. For either of these two cases (a Dump or a multiple request) the primary sort is always by the type of report requests, as follows (this is the QAMIS "standard sort"):

a. Agency
b. Laboratory
c. Site
d. Pollutant type in order: TSP, SO_2, NO_2, CO, and OX

For a multi-state request, the second-order sort is by state in order of their code numbers (alphabetical order).

There are no optional sorts available for any of the reports in the QAMIS system.

2.4.1.1 AGENCY REPORTS

2.4.1.1.1 GENERAL DESCRIPTION

The QAMIS File contains answers to 23 technical and managerial questions relating to quality control at each data-collection agency. Included are questions on training, budgeting, personnel, workload, and data transcription procedures. The two types of reports available are the Agency-Data and Agency-QCI reports.

2.4.1.1.2 RETRIEVALS AVAILABLE

The data in these reports may be selected for a single agency, for all agencies in a state, or for all agencies nationwide.

2.4.1.1.3 SORTS AVAILABLE

The available sorts for this report are:

a. State
b. Agency ID Number

2.4.1.1.4 SAMPLE REPORT

Figure 2.4.1.a shows a typical Agency Report. This example is the result of a request for data from all agencies in California. In each report type, the questionnaire is printed out first, followed by the responses in a definite format, different for each type of questionnaire. In this case, the five agencies for which responses were on hand were assigned grades ranging from A to D (scores of 95 and 59, respectively).

** SAMPLE QUESTIONNAIRE **

INTERIM
DATA QUALITY INFORMATION SHEET FOR
AIR POLLUTION AGENCIES

1. IN THE CURRENT FISCAL YEAR PERIOD WAS THERE A FORMALIZED AND OPERATIONAL QUALITY CONTROL PROGRAM IN THE AGENCY? (Y OR N)

    A. HOW MANY WHOLE YEAR TERMS HAS A QUALITY CONTROL PROGRAM BEEN IN FORCE?

2. WHERE THERE HAS BEEN A FORMALIZED QUALITY CONTROL PROGRAM IN THE LATEST FISCAL YEAR PERIOD,

    A. APPROXIMATELY WHAT PERCENT OF THE AGENCY'S BUDGET WAS ALLOCATED TO THE QUALITY CONTROL EFFORT?

    B. APPROXIMATELY WHAT PERCENT OF THE AGENCY'S BUDGET WAS ALLOCATED TO THE OVERALL AIR MONITORING EFFORT?

    C. FOR THE ABOVE, IS THERE A DESCRIPTION OF THE PROGRAM PLAN AVAILABLE?

3. IN THE AIR MONITORING PROGRAM ARE PERSONNEL EMPLOYED WHO HAVE A MINIMUM OF THREE HOURS OF UNDERGRADUATE TRAINING IN:

    A. STATISTICS? (Y OR N)

    B. QUALITY CONTROL? (Y OR N)

    C. COMPUTER PROGRAMMING? (Y OR N)

4. IN THE AIR MONITORING PROGRAM OPERATIONS ARE DATA SAMPLES CHECKED, AS A NECESSARY AND ROUTINE STEP, IN ACCORDANCE WITH STANDARDIZED PROCEDURES? (Y OR N)

    IF YES, IS THE METHOD: (A) COMPUTERIZED?
    (B) MANUAL? (A OR B)

5. IN THE AIR MONITORING OPERATION WHAT NUMBER OF PERSONS ARE ASSIGNED TO REVIEW ALL INCOMING SAMPLING DATA?
(I.E. 1 THRU 8, 9 FOR NINE OR MORE)

6. IS IT A MATTER OF STANDARD PROCEDURE THAT A RANKING AND KNOWLEDGEABLE OFFICER OF THE AGENCY REVIEW AND APPROVE ALL AIR DATA FORMS PRIOR TO SUBMISSION TO EPA? (Y OR N)

7. DOES THE AGENCY EACH QUARTER YEAR SUBMIT TO EPA ALL AIR SAMPLING DATA UTILIZING THE SAROAD FORMAT? (Y OR N)

8. IS THERE A PROCEDURE DESCRIPTION, FLOW DIAGRAM OR OTHER CHART WHICH SHOWS A COMPLETE DATA SEQUENCE FROM POINT OF AQUISITION TO POINT OF SUBMISSION OF DATA TO EPA? (Y OR N)

9. HOW MANY TIMES ARE DATA MANUALLY TRANSCRIBED IN THE ABOVE (8) SEQUENCE?

10. HOW IS THE ACTUAL TRANSCRIPTION OF VALUES ACCOMPLISHED?

    (A) BY NUMBER COPYING
    (B) BY NUMBER DICTATION
    (C) OTHER, EXPLAIN

11. DURING QUARTERLY AIR MONITORING OPERATIONS ESTIMATE THE TYPICAL PERCENT AMOUNT OF SAMPLE DATA THAT IS REJECTED AS INVALID, AND THUS NOT SUBMITTED TO EPA (EXCLUDE EQUIPMENT DOWNTIME DUE TO CALIBRATION OR MAINTENANCE).

12. AS A MATTER OF PROCEDURE ARE AIR QUALITY DATA ROUTINELY PUBLISHED BY THE AGENCY? (Y OR N)

13. HOW MANY MONITORING SITES ARE MAINTAINED BY THE AGENCY?

14. IS THERE A DOCUMENTED PROCEDURE FOR THE INVESTIGATION OF DATA ANAMOLIES? (Y OR N)

15. ARE NUMERICAL COMPUTATIONS ROUTINELY PERFORMED ON THE COLLECTED DATA? (Y OR N)

** SAMPLE QUESTIONNAIRE **

Figure 2.4.1.a. Agency Reports

THURSDAY MAY 29, 1975 DATA LISTING FROM AGENCY QUESTIONNAIRE PAGE 01

QUESTION NUMBER	1	1A	2A	2B	2C	3A	3B	3C	4A	4B	5	6	7	8	9	10	11	12	13	14	15		
						--TRAINING--																	
STATE/ AGENCY CODE	QC PROGRAM	PROG YEARS	QC BUDGET	MONITORING BUDGET	DESCRIPTION AVAILABLE	STATISTICS	QUALITY CONTROL	COMPUTER PROGRAMMING	DATA SAMPLES CHECKED	CHECK METHOD	DATA REVIEW PERSONNEL	DATA FORMS REVIEW	QUARTERLY DATA TO EPA	DATA FLOW DESCRIPTION	TRANS/ CRIPTIONS	HOW DONE	PERCENT DATA REJECTED	DATA PUBLISHED	NUM SITES MAINTAINED	1NVESTIGATE PROCEDURE	COMPUTATIONS	DATE MONTH/ YEAR	QCI SCORE GRADE
05/001	Y	10	02	11	Y	Y	Y	Y	Y	A	3	Y	Y	Y	02	A	04	Y	019	Y	Y	03/74	95-A
05/030	N	--	03	15	-	Y	Y	Y	Y	B	3	Y	N	N	01	A	01	Y	024	N	Y	04/74	39-D
05/330	Y	24	07	15	Y	Y	Y	Y	Y	*A	9	Y	N	N	01	A	03	Y	013	Y	Y	04/74	85-A
05/630	N	03	36	42	N	Y	Y	Y	Y	B	2	N	N	Y	01	A	12	Y	-15	N	Y	04/74	63-C
05/650	Y	04	05	20	N	Y	Y	Y	Y	B	3	Y	N	Y	02	B	05	Y	008	N	Y	04/74	77-B

'-' INDICATES NO RESPONSE TO QUESTION: '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI

Figure 2.4.1.a (continued). Agency Reports

2.4.1.2 LABORATORY REPORTS

2.4.1.2.1 GENERAL DESCRIPTION

The QAMIS file contains responses to 10 standard questions on such subjects as personnel qualifications and equipment availability and usage at laboratories where the raw data collected at the site are reduced and analyzed. The two types of report available are the Lab-Data and Lab-QCI reports.

2.4.1.2.1 RETRIEVALS AVAILABLE

The data may be selected for a single laboratory, for all laboratories within a single state, or for all laboratories nationwide.

2.4.1.2.3 SORTS AVAILABLE

a. State
b. Lab ID

2.4.1.2.4 SAMPLE REPORT

Figure 2.4.1.b shows a typical laboratory report.

** SAMPLE QUESTIONNAIRE **

DATA QUALITY INFORMATION SHEET FOR LABORATORIES

1. IF THE LABORATORY PERFORMS FUNCTIONS OTHER THAN THE ANALYSES OF AIR SAMPLES, ESTIMATE THE PERCENT OF TIME OF ANALYSES OF AIR SAMPLES.
2. IS A MAJORITY OF LAB EQUIPMENT LABELLED ACCORDING TO ITS LAST INSPECTION DATE AND ITS DUE DATE FOR CALIBRATION? (Y OR N)
3. HOW MANY PERSONS DOES THE LABORATORY EMPLOY FOR THE CURRENT FISCAL YEAR PROGRAM?
4. OF THE ABOVE, WHAT NUMBER HAVE ATTENDED FORMAL COURSES ON THE ANALYSES OF AIR POLLUTANTS?
5. FOR THE ABOVE, RANK THE SOURCE OF FORMAL TRAINING: MOST FREQUENT = 1, LEAST = 6
    A. FEDERAL GOVERNMENT SPONSORED
    B. STATE GOVERNMENT SPONSORED
    C. COLLEGE UNDERGRADUATE DEGREE PROGRAM
    D. COLLEGE GRADUATE DEGREE PROGRAM
    E. PROFESSIONAL, TRAINING ASSOCIATION
    F. OTHER (I.E. OJT) SPECIFY
6. ARE FEDERAL REFERENCE METHODS USED: (Y OR N)
    A. TOTAL SUSPENDED PARTICULATES
    B. SULFUR DIOXIDE
    C. NITROGEN DIOXIDE
    D. TOTAL OXIDANT
    E. CARBON MONOXIDE
    F. TOTAL HYDROCARBONS
7. ARE REPLICATES ROUTINELY MADE OF COLORIMETRIC CALIBRATIONS? (Y OR N)
8. IS AN UP-TO-DATE RECORD MAINTAINED OF THE STANDARD DEVIATIONS OF THE CALIBRATION CURVES SLOPE AND INTERCEPT? (Y OR N)
9. ARE CHECKS MADE TO DETERMINE ARITHMETIC ERRORS IN CALCULATIONS FOR OBTAINING CONCENTRATIONS? (Y OR N)
10. IS PERFORMANCE QUALITY CONTROL DATA DOCUMENTED IN A BOUND BOOK? (Y OR N)

** SAMPLE QUESTIONNAIRE **

Figure 2.4.1.b. Laboratory Reports

```
THURSDAY    MAY 29, 1975                    DATA LISTING FROM LABORATORY QUESTIONNAIRE                                    PAGE 01

QUESTION     1     2    3    4    5A  5B  5C  5D   5E   5F  6A  6B  6C  6D  6E  6F   7     8    9    10             *
NUMBER

            P A                   ---- FORMAL TRAINING -------                        C         E
            E I                                                                       A   C     R
            R R         E     A       S                                             R L   A     R     D
            C     E     M     T       T   U                                         E I   L E   O     O
            E A   Q L   P   C T   F   A   N   G                                     P B   I E   R   Q C             Q C 1
            N N   U A   L   O E   E   T   D   R           --FEDERAL REFERENCE ----  L R   B C       C U             - - -
            T A   I B   O   U N   D   E   E   A   P S             METHODS           I A   R O   C     M
              L   P E   Y   R D           R   D   R I   O                           C T   A R   H   D E     DATA    S G
            T Y   M L   M   S A   G   G   G   U   O O   T                           A I   T D   E   A N   RECEIVED  C R
STATE/LAB   I S   E L   E   E N   O   O   R   A   F N   H   T   S   N               T O   I S   C   T T             O A
 CODE       M E   N E   N     C   V   V   A   T   E A   E   S   O   O   O   C   H   E N   O     K   A E    MONTH/   R D
            E S   T D   T     E   T   T   D   E   S L   R   P   2   2   X   O   C     S   N     S     D     YEAR    E E
  ----      ---   ---   -   ---   -   -   -   -   ---   -   -   -   -   -   -   -   ---   ---   -   ---   ------   ----
  05/C1     99     N    12   12   2   1   3   5    4    6   Y   Y   Y   Y   Y   Y    Y     Y    Y    Y    03/74    88-A
  05/C2     60     N    06   03   1   2   4   5    3    6   Y   Y   Y   Y   Y   Y    Y     Y    Y    Y    04/74    87-A
  05/C3     30     N    23   21   5   4   1   2    6    3   Y   Y   Y   Y   Y   Y    N     Y    Y    Y    04/74    73-B
  05/C4     17     N    04   01   1   6   3   4    5    2   Y   Y   Y   Y   Y   N    Y     N    Y    Y    04/74    68-C
  05/C5     70     N    09   06   6   2   3   4    5    1   Y   Y   Y   Y   N   Y    Y     Y    Y    Y    04/74    85-A
'-' INDICATES NO RESPONSE TO QUESTION;    '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI
```

Figure 2,4,1,b (continued). Laboratory Reports

2.4.1.3 SITE REPORTS

2.4.1.3.1 GENERAL DESCRIPTION

The QAMIS Site File contains such technical site data as general history, instrumentation, and pollutants monitored. The Site File also contains the technical specifications and engineering procedures used for monitoring each pollutant at the site. The two reports available include the Site-Data Report and the Site-QCI Report.

2.4.1.3.2 RETRIEVALS AVAILABLE

The data may be selected for one site, for all sites in an agency, for all sites in a state, or for all sites in the nation.

2.4.1.3.3 SORTS AVAILABLE

a. State
b. Site ID
c. Agency ID

2.4.1.3.4 SAMPLE REPORT

Figure 2.4.1.c shows a typical Site Report.

** SAMPLE QUESTIONNAIRE **   ** SAMPLE QUESTIONNAIRE **

```
                              DATA QUALITY INFORMATION SHEET FOR
                                     AIR POLLUTION SITES

 1.  WHICH OF THE FOLLOWING ARE MONITORED AT THIS SITE?    (Y OR N)
           A.  TOTAL SUSPENDED PARTICULATE
           B.  OXIDANT
           C.  NON-METHANE HYDROCARBON
           D.  CARBON MONOXIDE
           E.  NO-2
           F.  SO-2

 2.  ARE ANY OTHER POLLUTANTS MONITORED AT THIS SITE?  (Y OR N)

 3.  IS THE POWFR SUPPLY VOLTAGE TO THE INSTRUMENTS REGULATED?  (Y OR N)

 4.  ARE MANUALS FOR EVERY MONITORING INSTRUMENT READILY AVAILABLE AT
     THE LOCATION OF THE SAMPLING SITE?  (Y OR N)

 5.  ARE REFERENCE MATERIALS, SUCH AS HANDBOOKS, GUIDELINES, AND
     OPERATING MANUALS AVAILABLE?  (Y OR N)

 6.  IS A LOGBOOK KEPT FOR THE SITE?  (Y OR N)
     IF SO A.  DOES IT CONTAIN INFORMATION REGARDING CALIBRATION?  (Y OR N)
           B.  ARE DAILY ENTRIES MADE?  (Y OR N)
           C.  IS AN ATTEMPT MADE TO RECORD ALL EVENTS WHICH MIGHT
               INFLUENCE DATA QUALITY?  (Y OR N)

 7.  THE DATA AQUISITION SYSTEM IS:
          (A)  COMPLETELY AUTOMATED
          (B)  SEMI-AUTOMATED
          (C)  MANUAL

 8.  IF SOME PORTION OF THE SYSTEM IS NOT AUTOMATED, ARE PREPRINTED FORMS
     IN USE FOR RECORDING DATA?  (Y OR N)

 9.  ARE SPOT CHECKS CONDUCTED TO DETECT ERRORS IN MANUAL TRANSCRIPTION OF DATA?

10.  ON THE AVERAGE, HOW OFTEN ARE ROTAMETERS CLEANED?
          (A)  ONCE WHEN INSTALLED          (D)  ANNUALLY
          (B)  MONTHLY                      (E)  LESS FREQUENTLY THAN ANNUALLY
          (C)  QUARTERLY

11.  HAVE ANY OF THE CURRENT SITE OPERATORS ATTENDED COURSES DEALING WITH
     AIR POLLUTION INSTRUMENTATION?  (Y OR N)

12.  HOW MANY YEARS HAS THE SITE BEEN IN OPERATION AT ITS PRESENT LOCATION?

13.  ARE ALL DEVICES WHICH ARE FACTORY CALIBRATED LABELLED WITH DATE OF LAST
     CALIBRATION AND DATE WHEN RECALIBRATION IS DUE?  (Y OR N)
```

Figure 2.4.1.c. Site Reports

```
THURSDAY          MAY 29, 1975                    DATA LISTING FROM SITE QUESTIONNAIRE                           PAGE 01

         QUESTION                  1A 1B 1C 1D 1E 1F 2   3   4   5   6  6A 6B   6C  7    8    9   10  11   12   13
          NUMBER
                            ---- POLLUTANTS --------                          A    P       R
                                 MONITORED       R       R M                  Q    R       O         O
 SAROAD SITE                                     E       E A                  U    E       T  O T  Y P
   CODE:                       O                 G P  M  F T  L             D I  F P       A  P R  E E
                               X              O  U O  A  E E  O          E  A S  O R    C  M  E A  A R    L
   STATE/         DATA         I              T  L W  N  R R  G  C  D E  V  T I  R I  S H  E  R I  R A  C A   QUALITY
   AREA/        RECEIVED       D              H  A E  U  E I  B  A  A N  E  A T  M N  P E  T  A N  S T  A B   CONTROL
   SITE/                    T  A        N  S  E  T R  A  N A  O  L  I T  N    I  S T  O C  E  T I    I  L E   INDEX
   AGENCY/       MONTH/     S  N  H  C  O  O  R  E    L  C L  O  I  L R  T    O    E  T K  R  O N  O O  I L
   PROJECT        YEAR      P  T  C  O  2  2  S  D    S  E S  K  B  Y Y  S    N    D    S  S  R G  F N  B S   SCORE GRADE
 ---------        ----      -  -  -  -  -  -  -  ---  -  ---  -  -  ---  -  ---  ---  ---  -  ---  ---  ---   ----- -----
 050500002101     04/74     Y  Y  Y  Y  Y  Y  N   Y   Y   Y   Y  Y   Y   Y   C    Y    Y   B   Y    9    -    96   -   A
 050520003F01     03/74     Y  Y  N  Y  Y  Y  Y   N   Y   Y   Y  Y   Y   Y   C    Y    Y   B   Y    3    -    85   -   A
 050580001101     04/74     Y  Y  N  Y  Y  N  N   N   Y   Y   Y  Y   N   Y   B    Y    Y   B   Y    4    -    85   -   A
 050720001102     04/74     N  N  N  N  N  Y  Y   N   Y   Y   Y  Y   N   Y   C    Y    Y   C   Y    1    -    81   -   B
 050900002101     04/74     N  Y  Y  Y  Y  Y  N   Y   Y   Y   Y  Y   Y   Y   C    Y    Y   B   Y    9    -    96   -   A
 050920002101     04/74     Y  Y  N  Y  N  Y  Y   N   Y   Y   Y  Y   N   Y   C    Y    Y   C   Y    2    -    83   -   B
 051260001F01     03/74     Y  Y  N  Y  Y  N  Y   N   Y   Y   Y  Y   Y   Y   C    Y    Y   B   Y    3    -    85   -   A

 '-' INDICATES NO RESPONSE TO QUESTION;  '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A  QCI
```

Figure 2.4.1.c (continued). Site Reports

2.4.1.4 POLLUTANT REPORTS

2.4.1.4.1 GENERAL DESCRIPTION

These reports make use of the data in the QAMIS file to give output data for the selection criteria outlined in the following paragraph. The 10 reports available in this section are:

a. Pollutant (TSP)-Data
b. Pollutant (TSP)-QCI
c. Pollutant (SO_2)-Data
d. Pollutant (SO_2)-QCI
e. Pollutant (NO_2)-Data
f. Pollutant (NO_2)-QCI
g. Pollutant (CO)-Data
h. Pollutant (CO)-QCI
i. Pollutant (OX)-Data
j. Pollutant (OX)-QCI

2.4.1.4.2 RETRIEVALS AVAILABLE

Selection criteria for these reports are as follows:

a. Specific pollutant-method combination at a site
b. All methods for one pollutant
c. All pollutants for one agency
d. All pollutants for one laboratory
e. All pollutants for one site
f. All pollutants in a single state
g. All pollutants nationwide

2.4.1.4.3 SORTS AVAILABLE

a. State
b. Site ID
c. Method
d. Laboratory ID
e. Agency ID Number

A multi-pollutant request is sorted in the order: TSP, SO_2, NO_2, CO, OX.

2.4.1.4.4 SAMPLE REPORT

See Figures 2.4.1.d through 2.4.1.h.

** SAMPLE QUESTIONNAIRE ** ** SAMPLE QUESTIONNAIRE **

DATA QUALITY INFORMATION SHEET FOR
TOTAL SUSPENDED PARTICULATE MEASUREMENT (HI-VOL SAMPLER ONLY)

1. PREPINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 11101).

2. PREPRINTED METHOD CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (METHOD CODE - 91).

3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR TSP AT THE SITE.

   A. IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)

4. ARE THE FILTERS CHECKED RANDOMLY FOR SURFACE ALKALINITY? (Y OR N)

5. ARE THE FILTERS VISUALLY INSPECTED FOR IMPERFECTION? (Y OR N)

6. ARE THE FILTERS CONDITIONED BEFORE INITIAL AND FINAL WEIGHING? (Y OR N)

7. ARE ENVELOPES OR FOLDERS IN USE FOR TRANSPORTING FILTERS? (Y OR N)

8. ARE FLOW RATES MEASURED BEFORE AND AFTER SAMPLING PERIOD? (Y OR N)

9. IF THE ANSWER TO NO. 8 IS YES, ESTIMATE THE AVERAGE PERCENT CHANGE IN FLOW RATES

   (A) LESS THAN 10 PERCENT
   (B) 10-20 PERCENT
   (C) GREATER THAN 20 PERCENT

10. ARE ALL WEIGHINGS AND SERIAL NUMBERS OF FILTERS KEPT IN A LOGBOOK AT THE LABORATORY? (Y OR N)

11. IS THERE A LOGBOOK AT EACH SAMPLER TO RECORD FLOWS AND TIMES? (Y OR N)

12. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW THAT MOST CLOSELY ESTIMATES THE FREQUENCY OF FLOW RATE CALIBRATION.

   (A) ONCE WHEN FIRST PURCHASED
   (B) ONCE WHEN PURCHASED THEN AFTER EVERY SAMPLER MODIFICATION
   (C) ONCE WHEN PURCHASED THEN AT REGULAR INTERVALS THEREAFTER

13. WHAT IS THE APPROXIMATE TIME DELAY BETWEEN SAMPLE COLLECTION AND FINAL WEIGHING? (ANSWER IN DAYS)

Figure 2.4.1.d. Pollutant Reports (TSP)

```
THURSDAY        MAY 29, 1975            DATA LISTING FOR TSP (11101) QUESTIONNAIRE                                 PAGE 01

                              L  QUESTION           3       3A   4    5    6     7   8   9   10   11   12   13
                              A   NUMBER
                          M   B                                              C           F             C
                          E   O                                  A           O       F   L             A F
                          T   R                                  L         F N   E   L   O             L R
  SAROAD SITE             H   A                                  K         I D   N   O   W             I E       Q C I
    CODE:                 O   T                               S  A C       L I   V   W       F L    L  B Q       - - -
                          D   O                             S A  L H  V    T T   E       C   I O  F O  R U
    STATE/        DATA        R                             E M  I E  I C  E I   L   R   H   L G  L G  A E  T D  S   G
    AREA/       RECEIVED  C   Y                             C P  N C  S H  R O   O   A   A   T B  O B  T N  I E  C   R
    SITE/                 O         SAMPLER       SAMPLER   O L  I K  U E  S N   P   T   N   E O  W O  I C  M L  O   A
    AGENCY/      MONTH/   D   I      BRAND        MODEL     N E  T    A C    E   E   E   G   R O  S O  O Y  E A  R   D
    PROJECT       YEAR    E   D       NAME        NUMBER    D R  Y    L K    D   S   S   E   S K    K  N      Y  E   E
------------    -----    --  --  --------------   --------  ---  ---  ---  ---  -   -   -  ---  ---  ---  ---  -----
500080001F01     04/74   91  20  GENERAL METALS   GMW 2000  Y    Y    Y     Y    Y   Y   B    Y    N    B   01   85-A
500280002F01     04/74   91  10  GENERAL METALS   GMW 2000  Y    Y    Y     Y    Y   Y   B    Y    N    B   01   85-A
500280003F03     04/74   91  10  GENERAL METALS   GMW 2000  Y    Y    Y     Y    Y   Y   B    Y    N    B   01   85-A
500280003F01     04/74   91  10  GENERAL METALS   GMW 2000  Y    Y    Y     Y    Y   Y   B    Y    N    B   01   85-A
500360001F01     04/74   91  10  GENERAL METALS   GMW 2000  Y    Y    Y     Y    Y   Y   B    Y    N    B   01   85-A
500460001F02     04/74   91  10  GENERAL METALS   GMW 2000  Y    Y    Y     Y    Y   Y   B    Y    N    B   01   85-A
500480002F02     04/74   91  10  GENERAL METALS   GMV 2000  Y    Y    Y     Y    Y   Y   B    Y    N.   B   01   85-A

'-' INDICATES NO RESPONSE TO QUESTION:   '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI
```

Figure 2.4.1.d (continued). Pollutant Reports (TSP)

** SAMPLE QUESTIONNAIRE ** ** SAMPLE QUESTIONNAIRE **

DATA QUALITY CONTROL INFORMATION SHEET FOR
SO-2 MEASUREMENT

1. PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 42 01)
2. ENTER METHOD CODE FROM SAROAD CODING MANUAL.
3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR SO-2 AT THE SITE.
   A. IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)
4. ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.
5. ARE SPOT CHECKS RANDOMLY CONDUCTED USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE OF THE ENTIRE SYSTEM? (Y OR N)
6. ARE CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER TO PUT BOUNDS ON THE REPORTED DATA? (Y OR N)

FOR CONTINUOUS SAMPLERS ONLY:

7. ENTER THE LETTER CORRESPONDING TO THE STATEMENT WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF ZERO AND SPAN CALIBRATION:
   (A) DAILY (D) LESS THAN WEEKLY
   (B) EVERY 2-3 DAYS (E) NOT POSSIBLE
   (C) WEEKLY
8. ENTER THE LETTER CORRESPONDING TO THE STATEMENT WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF MULTIPOINT CALIBRATIONS:
   (A) BIWEEKLY (D) LESS THAN QUARTERLY
   (B) MONTHLY (E) NEVER
   (C) QUARTERLY
9. IS A LOGBOOK MAINTAINED FOR THE ANALYZER? (Y OR N)
10. ARE SPOT CHEKCS MADE TO ASSESS THE DATA REDUCTION ERRORS?
11. IS A DYNAMIC CALIBRATION USUALLY PERFORMED RATHER THAN A STATIC ONE? (Y OR N)
12. ARE SO-2 PERMEATION TUBES USED? (Y OR N)

    IF YES, ARE REPEATED PERMEATION RATE DETERMINATIONS MADE? (Y OR N)
13. IF SO-2 PERMEATION TUBES ARE USED, HOW ARE THEY CALIBRATED?
    (A) NATIONAL BUREAU OF STANDARDS
    (B) FACTORY
    (C) IN-HOUSE

FOR BUBBLER SAMPLERS ONLY:

14. IS SAMPLING TRAIN ROUTINELY CHECKED FOR LEAKS? (Y OR N)
    A. HOW OFTEN? (A) ONCE A WEEK
    (B) ONCE A MONTH
    (C) ONCE A QUARTER
15. IS FLOW CONTROLLED BY A LIMITED ORIFICE? (Y OR N)
16. IS LIMITED ORIFICE CALIBRATED?
    (A) ON SITE
    (B) IN LABORATORY
17. ARE WORKING STANDARDS PREPARED THE SAME DAY THAT SAMPLES ARE ANALYZED? (Y OR N)
18. ARE CALIBRATION CURVES RUN ON THE SAME DAY AS THE SAMPLE ANALYSIS? (Y OR N)

Figure 2.4.1.e. Pollutant Reports (SO_2)

DATA LISTING FOR SO-2 (42401) QUESTIONNAIRE CONTINUOUS SAMPLERS - BUBBLER SAMPLERS -

				QUESTION NUMBER	3	3A	4	5	6	7	8	9	10	11	12		13	14		15	16	17	18	UCI	
SAROAD SITE CODE: STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	METHOD CODE	LABORATORY ID	SAMPLER BRAND NAME	SAMPLER MODEL NUMBER	2ND SAMPLER	MINIMUM CONCENTR	SPOT CHECKS	PRECISION	ZERO SPAN	MULTIPOINT	LOGBOOK	DATA CHECKS	CALIBRATION	PERM TUBES	A REPEATED	TUBES CALIB	LEAKS CHECK	A HOW OFTEN	LIN ORIFICE	ORIFICE CAL	STANDARDS	CAL CURVES	SCORE	GRADE
163120021G02	04/74	91	01	BAC-BUB	3-GAS	N	.0100	Y	N	-	-	-	-	-	-	-	-	Y	A	Y	B	Y	Y	87-A	

Figure 2.4.1.e (continued). Pollutant Report (SO_2)

SAMPLE QUESTIONNAIRE ** DATA QUALITY CONTROL INFORMATION SHEET FOR NO-2 MEASUREMENT ** SAMPLE QUESTIONNAIRE

1. PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL (PARAMETER CODE - 42602).

2. ENTER METHOD CODE FROM SAROAD CODING MANUAL.

3. PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR NO-2 AT THE SITE.

   A. TO A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE? (Y OR N)

4. ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.

5. ARE PERMEATION TUBES USED FOR CALIBRATION? (Y OR N)

   A. IF YES, ARE REPEATED PERMEATION RATE DETERMINATIONS MADE? (Y OR N)

6. ARE DUCT CHECKS CONDUCTED RANDOMLY USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE OF THE ENTIRE SYSTEM? (Y OR N)

7. ARE ANY CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER TO PUT BOUNDS ON THE REPORTED DATA? (Y OR N)

FOR BUBBLER SAMPLERS ONLY:

8. IS THE SAMPLING TRAIN ROUTINELY CHECKED FOR LEAKS? (Y OR N)
   A. HOW OFTEN?
      (A) ONCE A WEEK
      (B) ONCE A MONTH
      (C) ONCE A QUARTER

9. IS FLOW CONTROLLED BY A LIMITED ORIFICE? (Y OR N)

10. IS LIMITED ORIFICE CALIBRATED
      (A) ON SITE
      (B) IN LABORATORY

FOR CONTINUOUS SAMPLERS ONLY:

11. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF ZERO AND SPAN CALIBRATIONS:
      (A) DAILY
      (B) EVERY 2-3 DAYS
      (C) WEEKLY
      (D) LESS THAN WEEKLY
      (E) NOT POSSIBLE

12. ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE FREQUENCY OF MULTIPOINT CALIBRATIONS:
      (A) BIWEEKLY
      (B) MONTHLY
      (C) QUARTERLY
      (D) LESS OFTEN THAN QUARTERLY
      (E) NEVER

13. IS A LOGBOOK MAINTAINED FOR THE ANALYZER TO INCLUDE CALIBRATION DATA, DOWNTIME, AND COMMENTS? (Y OR N)

14. ARE SPOT CHECKS MADE TO ASSESS DATA REDUCTION ERRORS? (Y OR N)

Figure 2.4.1.f. Pollutant Report (NO_2)

```
TUESDAY       AUGUST 19, 1975                    LATA LISTING FOR NO-2 (42602) QUESTIONNAIRE                                  PAGE 01
                                                                                             BUBBLER         CONTINUOUS
                                                                                          ---SAMPLERS---    ---SAMPLERS---
                              L     QUESTION              3       3A   4     5  5A   6   7   8  8A   9  10  11  12  13  14
                              A      NUMBER
                          M   B                                    2                 S       L       L   O               D
                          E   O                                    N         P       P       E       I   R       M       A
                          T   R                                    D         E       O   P   A   H   M   I   Z   U       T
                          H   A                                          C   R   R   T   R   K   O       F   E   L       A
  SAROAD SITE             O   T                                    S   M O   M   E       E   S   W   O   I   R   T   L       Q C I
    CODE:                 D   O                                    A   I N       P   C   C           R   C   O   I   O   C   - - -
    STATE/        DATA        R                                    M   N C   T   E   H   I   C   O   I   E       P   G   H   S   G
     AREA/      RECEIVED  C   Y                                    P   I E   U   A   E   S   H   F   F       S   O   B   E   C   R
     SITE/                O          SAMPLER            SAMPLER    L   M N   B   T   C   I   E   T   I   C   P   I   O   C   O   A
    AGENCY/      MONTH/   D   I      BRAND              MODEL      E   U T   E   E   K   O   C   E   C   A   A   N   O   K   R   D
    PROJECT       YEAR    E   D      NAME               NUMBER     R   M R   S   D   S   N   K   N   E   L   N   T   K   S   E   E
---------------  -------  --  --    -----------        ----------  -- ----   -   -   -   -   -   -   -   -   -   -   -   -  ------
  361220018H01    03/74   84  04 PEDCO                             N .0100   Y   Y   Y   Y   Y   A   N   -   -   -   -   -    99-A
  361220020H01    03/74   84  04 MONITOR LABS          0000008100  N .0100   Y   Y   Y   Y   -   -   -   -   C   A   Y   Y    99-*
  361280002H01    03/74   84  04 PEDCO                             N .0100   Y   Y   Y   Y   Y   A   N   -   -   -   -   -    99-A
  361300001H01    03/74   84  05 TRICRAFT 5 GAS BUB                N .0100   N   -   Y   N   Y   A   Y   B   -   -   -   -    80-B

   '-' INDICATES NO RESPONSE TO QUESTION;       '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI
```

Figure 2.4.1.f (continued). Pollutant Report (NO_2)

```
** SAMPLE QUESTIONNAIRE **             DATA QUALITY CONTROL INFORMATION SHEET FOR             ** SAMPLE QUESTIONNAIRE **
                                               CARBON MONOXIDE MEASUREMENT

     1.  PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL
         (PARAMETER CODE - 42101).

     2.  ENTER METHOD CODE FROM SAROAD CODING MANUAL.

     3.  PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR CO AT THE SITE.

         A.  IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE?  (Y OR N)

     4.  ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.

     5.  ARE CALIBRATION CODES CHECKED FOR ACCURACY WHEN PURCHASED?  (Y OR N)

     6.  IF THE NEAR METHOD IS USED, ARE REGULAR CHECKS MADE TO DETERMINE INTERFERENCE
         FROM WATER VAPOR?  (Y OR N)

     7.  IS OTHER QUART. DATA REGULARLY FROM CHECKED FOR DATA REDUCTION REPORTS?  (Y OR N)

     8.  ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES
         THE FREQUENCY OF FERO AND SPAN CALIBRATIONS:
                       (A) DAILY
                       (B) EVERY 2-3 DAYS
                       (C) WEEKLY
                       (D) LESS THAN WEEKLY
                       (E) NEVER

     9.  ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES
         THE FREQUENCY OF MULTIPOINT CALIBRATIONS:
                       (A) BIWEEKLY
                       (B) MONTHLY
                       (C) QUARTERLY
                       (D) LESS THAN QUARTERLY
                       (E) NEVER

    10.  IS A LOGBOOK MAINTAINED FOR THE ANALYZER TO INCLUDE CALIBRATION DATA, DOWNTIME,
         AND COMMENTS?  (Y OR N)

    11.  ARE ANY CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER
         TO PUT BOUNDS ON THE REPORTED DATA?  (Y OR N)

    12.  ARE SPOT CHECKS RANDOMLY CONDUCTED USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE
         OF THE ENTIRE SYSTEM?  (Y OR N)
```

Figure 2.4.1.g. Pollutant Report (CO)

```
                              DATA LISTING FOR CO (42101) QUESTIONNAIRE                   PAGE 01

                           L  QUESTION           3         3A   4   5  6  7  8  9  10 11 12
                           A   NUMBER
                        M  B                                2       C  V                 S
                        E  O                                N       A  A  D     M        P
                        T  R                                D       S  P  A  Z  U     P  O
SAROAD SITE             H  A                                     C  E  O  T  E  L     R  T
   CODE:                O  T                                S  M O  S  R  A  R  T  L  E     Q C I
                        D  O                                A  I N           O  I  O  C  C
   STATE/       DATA       R                                M  N C  C  C  C     P  G  I  H  S G
   AREA/      RECEIVED  C  Y                                P  I E  H  H  H  S  O  B  S  E  C R
   SITE/                O        SAMPLER        SAMPLER     L  M N  E  E  E  P  I  O  I  C  O A
   AGENCY/     MONTH/   D  I      BRAND         MODEL       E  U T  C  C  C  A  N  O  O  K  R D
   PROJECT      YEAR    E  D       NAME         NUMBER      R  M R  K  K  K  N  T  K  N  S  E E
------------  ------   -- --  ---------------  ----------   -  ---  -  -  -  -  -  -  -  -  ----
361220020H01   03/74   11 04  INTERTECH VRAS   0000000002   N .5000 Y  Y  Y  C  C  Y  Y  Y  94-A
361300013H01   03/74   11 05  MSA LIRA         202          N .5000 N  N  Y  A  C  Y  N  Y  64-C
361300033H01   03/74   11 05  MSA LIRA         202          N .5000 N  N  Y  A  C  Y  N  Y  64-C
```

Figure 2.4.1.g (continued). Pollutant Report (CO)

```
** SAMPLE QUESTIONNAIRE **                                                    ** SAMPLE QUESTIONNAIRE **

                           DATA QUALITY CONTROL INFORMATION SHEET FOR
                              PHOTOCHEMICAL OXIDANT MEASUREMENT

     1.  PREPRINTED PARAMETER CODE SHOULD CORRESPOND TO THAT FOUND IN THE SAROAD CODING MANUAL
         (PARAMETER CODE - 44101).

     2.  ENTER METHOD CODE FROM SAROAD CODING MANUAL.

     3.  PRINT BRAND NAME AND MODEL NUMBER OF SAMPLER USED TO MONITOR OXIDANTS AT THE SITE.

         A.  IS A SECOND SAMPLER AVAILABLE OR PRESENTLY IN USE AT THE SITE?  (Y OR N)

     4.  ENTER MEASURED MINIMUM DETECTABLE CONCENTRATION FOR THE MAIN SAMPLER IN PPM.

     5.  ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH IS THE BEST ESTIMATE
         OF THE FREQUENCY OF OZONE SOURCE CALIBRATION:
               (A) MORE FREQUENTLY THAN ANALYZER
               (B) AT SAME TIME AS ANALYZER
               (C) LESS FREQUENTLY THAN ANALYZER

     6.  ARE ANY CALCULATIONS OR ESTIMATES MADE OF THE PRECISION OF THE RESULTS IN ORDER TO
         PUT VOLUME ON THE REPEATER DATA?  (Y OR N)

     7.  ARE SPOT CHEKCS CONDUCTED RANDOMLY USING CONTROL SAMPLES TO AUDIT THE PERFORMANCE
         OF THE ENTIRE SYSTEM?  (Y OR N)

     8.  ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE
         FREQUENCY OF ZERO AND SPAN CALIBRATIONS:

               (A) DAILY
               (B) EVERY 2-3 DAYS
               (C) WEEKLY
               (D) LESS THAN WEEKLY
               (E) NEVER

     9.  ENTER THE LETTER CORRESPONDING TO THE STATEMENT BELOW WHICH MOST CLOSELY ESTIMATES THE
         FREQUENCY OF MULTIPOINT CALIBRATIONS:
               (A) BIWEEKLY
               (B) MONTHLY
               (C) QUARTERLY
               (D) LESS THAN QUARTERLY
               (E) NEVER

    10.  IS A LOGBOOK MAINTAINED FOR THE ANALYZER TO INCLUDE CALIBRATION DATA, DOWNTIME, AND
         COMMENTS?  (Y OR N)

    11.  ARE SPOT CHECKS MADE TO ASSESS DATA REDUCTION ERRORS?  (Y OR N)
```

Figure 2.4.1.h. Pollutant Report (Photochemical Oxidants)

DATA LISTING FOR OXIDANT (44101) QUESTIONNAIRE

SAROAD SITE CODE: STATE/ AREA/ SITE/ AGENCY/ PROJECT	DATA RECEIVED MONTH/ YEAR	METHOD CODE	LABORATORY ID	SAMPLER BRAND NAME	SAMPLER MODEL NUMBER	3A 2ND SAMPLER	4 MINIMUM CONCENTR	5 CALIBRATION FREQUENCY	6 PRECISION	7 SPOT CHECKS	8 ZERO SPAN	9 MULTIPOINT	10 LOGBOOK	11 DATA CHECKS	GCI SCORE GRADE
361220020H01	03/74	11	04	MONITOR LAB	0000008100	N	.0050	-	Y	Y	C	A	Y	Y	96-A
361300033H01	03/74	11	05	BENDIX		N	.0020	C	N	Y	A	C	Y	Y	80-B
361300034H01	03/74	11	05	BENDIX		N	.0020	C	N	Y	A	C	Y	Y	80-B

Figure 2.4.1.h (continued). Pollutant Report (Photochemical Oxidants)

2.4.1.5 OPINION SURVEY BY AGENCY

2.4.1.5.1 GENERAL DESCRIPTION

This report, which consists of responses to a set of eight questions, is an opinion poll type of document. Because there are no "right" of "wrong" answers, no QCI data are included. There is no associated quality control index and, hence, no QCI report.

2.4.1.5.2 RETRIEVALS AVAILABLE

The opinion survey data may be selected for a single agency, for all agencies within a given state, and for all agencies nationwide.

2.4.1.5.3 SORTS AVAILABLE

a. State
b. Agency ID Number

The Opinion Report does not use the QAMIS standard sort because no QCI information is included in the report and no Report Type number is used.

2.4.1.5.4 SAMPLE REPORT

Figure 2.4.1.i shows questions and answers for a typical opinion survey report.

```
** SAMPLE QUESTIONNAIRE **                    OPINION POLL FROM                              ** SAMPLE QUESTIONNAIRE **
                                  DATA QUALITY CONTROL INFORMATION SHEET FOR
                                           AIR POLLUTION AGENCIES

              RESPONSE BY AGENCY HEAD OR DESIGNATED QUALITY CONTROL OFFICER

              1.  IN YOUR OPINION CAN A STRUCTURED DATA QUALITY CONTROL PROGRAM BE OF VALUE AND BENEFIT
                  TO OVERALL AGENCY GOALS?  (Y OR N)

              2.  ESTIMATE THE PERCENT OF THE OVERALL PROGRAM BUDGET, IN YOUR OPINION, THAT SHOULD
                  APPROPRIATELY BE DEVOTED TO A QUALITY CONTROL PROGRAM.
                        (A)  RANGE, 1-5 PERCENT
                        (B)  RANGE, 6-10 PERCENT
                        (C)  RANGE, 11-15 PERCENT.
                        (D)  RANGE, 16 PERCENT OR GREATER

              3.  RANK THE AGENCY'S CURRENT OR MOST RECENT QUALITY CONTROL PROGRAM.
                        (A)  VERY POOR
                        (B)  POOR
                        (C)  FAIR
                        (D)  GOOD
                        (E)  SUPERIOR

              4.  ORDER  (RANK AS 1, 2, 3, 4; 1=HIGHEST) THE FOLLOWING STATEMENTS TO REFLECT YOUR
                  OPINION AS TO THE FACTORS THAT WOULD IMPROVE THE AGENCY'S DATA QUALITY OPERATIONS:
                         A.  BETTER QUALIFIED PERSONNEL
                         B.  BETTER INSTRUMENTATION
                         C.  BETTER LABORATORY FACILITIES
                         D.  PERIODIC AUDITS OF OPERATING PROCEDURES OR PERSONNEL

              5.  SIMILARLY, ORDER THE STATEMENTS TO REFLECT THE FACTOR THAT RESULTS IN A SOURCE OF
                  ERROR IN PROCEDURES OF MEASUREMENT OF POLLUTANTS (I.E. 1=LEAST 4=GREATEST):
                         A.  CALIBRATION PROCEDURES
                         B.  METHOD OF ANALYSIS
                         C.  DATA REDUCTION
                         D.  OPERATOR  .

              6.  ORDER THE STATEMENTS TO REFLECT THE INCREASING IMPORTANCE OF FACTORS FOR GOOD DATA
                  QUALITY:  (I.E.  1=MOST IMPORTANT TO 4=LEAST IMPORTANT)
                         A.  PERSONNEL TRAINING
                         B.  PERIODIC AUDITS OF OPERATIONS
                         C.  USE OF CONTROL SAMPLES TO TEST PROFICIENCY (EG. MOBILE SAMPLER IN
                                  PARALLEL TO CHECK EQUIPMENT SAMPLING OF TSP)
                         D.  PROPER PROCEDURES FOR MAINTENANCE AND CALIBRATION OF INSTRUMENTS

              7.  RANK THE FOLLOWING POLLUTANTS  (1=MOST NEEDED TO 6=LEAST NEEDED) TO REFLECT WHERE
                  GUIDELINES (EPA OR OTHER) ARE MOST NEEDED FOR POLLUTANT MEASUREMENT METHOD:
                         A.  TSP                                D.  OXIDANT
                         B.  HC                                 E.  NO-2
                         C.  CO                                 F.  SO-2

              8.  IS IT YOUR OPINION THAT INSPECTION, OF OPERATIONAL EQUIPMENT AND OPERATORS, BY OTHER
                  THAN AGENCY OFFICIALS WOULD RESULT IN HIGHER QUALITY DATA?  (Y OR N)
```

Figure 2.4.1.i. Opinion Survey Report

```
THURSDAY        MAY 29, 1975          . DATA LISTING FROM AGENCIES QUESTIONNAIRE OPINION POLL                                           PAGE 01

                   (1)                  (2)                (3)              (4)        (5)          (6)               (7)                  (8)
 STATE/      CAN QC PROGRAM       WHAT PERCENT OF     RANK AGENCY'S      ORDER QC    ORDER      ORDER DATA      RANK NEED FOR        WOULD OUTSIDE
 AGENCY      BE OF BENEFIT TO     BUDGET SHOULD       CURRENT OR         PROGRAM     ERROR      QUALITY         POLLUTANTS           INSPECTORS BE
 CODE        AGENCY GOALS?        QC PROGRAM GET?     RECENT PROGRAM     NEEDS       FACTORS    FACTORS         GUIDELINES           OF HELP?
 ----        -----------------    ---------------     --------------     --------    -------    ----------      -------------        -------------
 05/001            YES                 6-10                GOOD          A - 3       A - 4      A - 1           TSP-1  OX -6               NO
   .                                                                     B - 1       B - 3      B - 3           HC -4  NO2-2
                                                                         C - 4       C - 2      C - 4           CO -5  SO2-3
                                                                         D - 2       D - 1      D - 2
 05/030            NO                  1-5                 SUPERIOR      A - 3       A - 1      A - 1           TSP-1  OX -4               NO
                                                                         B - 2       B - 4      B - 4           HC -2  NO2-3
                                                                         C - 1       C - 3      C - 3           CO -6  SO2-5
                                                                         D - 4     . D - 2      D - 2
 05/330            YES                 16+                 SUPERIOR      A - -       A - -      A - 2           TSP--  OX --               NO
                                                                         B - -       B - -      B - 4           HC --  NO2--


'-' INDICATES NO RESPONSE TO QUESTION;  '*' INDICATES INSUFFICIENT INFORMATION SUBMITTED TO COMPUTE A QCI
```

Figure 2.4.1.i (continued). Opinion Survey Report

The Hazardous and Trace Emissions System (HATREMS) is a computer based emission inventory system currently being developed for storing and retrieving emissions data from both point and area sources. The system will be closely related to NEDS (see 2.1.0.0) in that it stores similar data and produces a similar set of reports; however, it will be designed to handle any number of pollutants rather than the 5 criteria pollutants.

Additional information on HATREMS reports will be available when the system development is complete.

The SIP system was designed to automate the process of updating and retrieving selected portions of the various State Implementation Plans. At the present time, only officially approved rules and regulations are entered into the system. In each case, the full tests of the rules and regulations portions of the respective SIP's are used.

The SIP system yields retrieval of the full texts of the selected portions of the SIP's of interest. There are more than 180 identifying codes available to use as retrieval keys. Examples of these keys are:

a. Source surveillance record keeping
b. Sulfur dioxide control regulations for Kraft pulp mills

The desired subject matter will be retrieved for the state or states specified in the report request. A special "Type 4" output consists of the number of regulations that meet the selection criteria. This is useful to the user before he makes the actual full text retrieval because he can obtain an idea of the probable volume of output that will be forthcoming.

The terms "segment text" and "text category" that appear in the following paragraphs are defined as follows:

a. Segment text refers to the actual text of the given SIP or SIP's that is printed out by the computer as a result of the request specifications. For most requests, this text will be a "segment" of the Specified Plan or Plans, rather than the complete Plan.
b. Text category refers to one or more of the 185 requirement codes that are used to specify the exact type of regulatory test desired. An example of a text category is "SO$_2$ control regulations for Kraft pulp mills." The complete list of these requirement codes may be found in Volume V of the AEROS Manual

2.6.1.1 GENERAL DESCRIPTION AND AVAILABLE OPTIONS

There are at present four types of reports available to the user of the SIP Rules and Regulations Information System. These are:

	RETRIEVALS AVAILABLE	SORTS AVAILABLE
a. State Name, Document ID, Status, Segment Text ("Type 1" Report)	State (up to 3), Text Category (up to 3 requirement codes may be specified), geographic areas (up to 3 for one state only), and retrieval of text within specified document and segment ID numbers. Certain combinations of the above selection criteria are permitted. If no state is specified, retrieval will be made for the entire nation.	Primary key is the State Code, secondary key is the Region Code, and tertiary key is the Document-Segment ID, Regulation Status, and Effective Date. Following these basic sort keys are subsidiary keys which are functions of the report type requested.
b. State Name, Document ID, Status, Segment Text, Comments ("Type 2")	(Same as above except for retrieval of text within specified document and segment ID numbers.)	(Same as above.)
c. State Name, Document ID, EPA Requirement Codes, Areas of Applicability (or Exclusion) Codes ("Type 3" Report)	(Same as above.)	(Same as above.)
d. Number of Document Segments Fulfilling Search Criteria ("Type 4")	(Same as above.)	(Same as above.)

The SIP System makes use of certain specialized codes for representing geographical areas and text categories ("requirements"). These codes are given in Volume V. The retrievals and sorts for each report type are fixed by the program and no options are available to the user other than to specify the number of optional parameters upon which he wishes to base his request. There are (as of March 1975) 185 EPA Requirement Codes. These form the basis for selective retrieval of text categories within a given state or states.

2.6.1.2 SAMPLE REPORTS

Figures 2.6.1.a, b, c, and d show samples of each report type for text category retrievals for the District of Columbia.

```
                                                                           PAGE 1
****************************************************************************************
        STATE: DIST. OF COL.     DOCUMENT ID: AA0011     STATUS: I
****************************************************************************************

                           SEGMENT TEXT

      SECTION 8-2:707
      (E) WASTE GAS DISPOSAL FROM ETHYLENE PRODUCING PLANT. NO
      PERSON SHALL CAUSE, SUFFER, OR ALLOW THE EMISSION OF A WASTE
      GAS STREAM FROM ANY ETHYLENE PRODUCING PLANT, OR SOURCE ...
```

Figure 2.6.1.a. Sample of Print Format 1

```
                                                                   PAGE 1
*****************************************************************************
         STATE: DIST. OF COL.       DOCUMENT ID: AA0011      STATUS: I
*****************************************************************************

                                 SEGMENT TEXT

      SECTION 8-2:707
      (E) WASTE GAS DISPOSAL FROM ETHYLENE PRODUCING PLANT.  NO
      PERSON SHALL CAUSE, SUFFER, OR ALLOW THE EMISSION OF A WASTE
      GAS STREAM FROM ANY ETHYLENE PRODUCING PLANT, OR SOURCE ...

                                   COMMENTS

      (B) BY FEBRUARY 1, 1973 THE COMMISSIONER SHALL REPORT TO THE
      DISTRICT OF COLUMBIA COUNCIL THE STATUS OF THE AIR QUALITY
      MONITORING SYSTEM WITHIN THE DISTRICT ...
```

Figure 2.6.1.b. Sample of Print Format 2

```
                                                                PAGE 1
****************************************************************************
        STATE: DIST. OF COL.      DOCUMENT ID: AA0011
****************************************************************************

                          EPA REQ. CODES

A03  102  N01  N02  V01   A16   A15   K13   R06  S08  K06  L03  S07  S02  S06
S03  R01  R02
                          AREAS OF APPLICABILITY

BQAA   BQAB   BQAC   BQBA   BQBC   BQCA   BQCC   BQCE   BQCG   BQCI
BQDI   BQDM
```

Figure 2.6.1.c. Sample of Print Format 3

```
********* THE NUMBER OF DOCUMENT SEGMENTS FULFILLING SEARCH CRITERIA - 00033
```

Figure 2.6.1.d. Sample of Print Format 4

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** REPORT CAPABILITIES	**SECTION** 2	**CHAPTER** 7	**SUBJECT** 0
NATIONAL AIR DATA BRANCH	**CHAPTER** FEDERAL POWER COMMISSION FORM 67 SYSTEM	**DATE** 9/30/75		**PAGE** 1
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** REPORTS AVAILABLE			

The Federal Power Commission (FPC) collects each year a Form 67 from each of the major power plants in the United States. The data entered in the Form 67 include details of the physical equipment of the plant in question, such as boilers, stacks, and generators; the types and amounts of fuel burned at each point within a facility; and the kinds of pollution control equipment installed for each electric power generating plant in the United States that comes within the purview of the FPC regulation. Special provisions are made for the inclusion of newly installed boilers or other equipment, and for those retired from service as well.

An FPC Form 67 consists of 24 pages including the cover sheet, the table of contents, and general instructions and definitions. In addition to the information pertaining to the plant equipment and fuel consumption, a considerable amount of cost information is also included in the Form 67. The FPC produces a data tape of each year's data. Each tape (for years 1969-1973) has been sent to NADB. The tapes have been merged into a single tape. As the data for later years become available from the FPC, they will also be added to the EPA tape. A cross-reference table has been set up between the NEDS ID and the FPC plant ID. This cross-reference table permits the NEDS retrieval codes to be used. The complete FPC-67 information for all years of record for any given power plant or group of power plants is always obtained with each retrieval. Because, for some parts of the Form 67, there may be several pages of computer printout for a single page of the Form, a large volume of output may be generated, especially when data for several plants are requested.

2.7.1.1 GENERAL DESCRIPTION

The sample report (shown in part in Figure 2.7.1.a) reproduces, in computer printout form, the FPC Forms 67 for the years shown. There is a one-to-one correspondence between the data entered manually in the forms themselves and data appearing in the computer print-out, except that the FPC Form is made out once a year for each year of record, while the EPA's FPC-67 tape contains the consolidated data for all years in sequence for each plant in the file. All FPC-67 data are printed for each plant requested, thereby giving approximately 28-30 pages of output per plant.

2.7.1.2 RETRIEVALS AVAILABLE

Although the data for a given plant will always appear in the same format, there are 11 retrievals available in the NEDS retrieval system. These are:

a. State
b. State and County
c. State, County, and Plant
d. State, County, Plant, and Point
e. AQCR
f. Entire Nation
g. SCC (Source Classification Code); Parts I, II, III, IV, or any combination thereof
h. Ownership Code
i. SIC (Standard Industrial Classification)
j. State and SCC (valid combinations only)
k. Fuel Type (e.g., coal, oil, or gas)

Since Plant ID numbers are not unique among states, a request for a plant alone, without also specifying a state, does not constitute a valid retrieval. NEDS retrievals use a cross-reference table (See 2.7.0) to match between NEDS ID and FPC ID numbers.

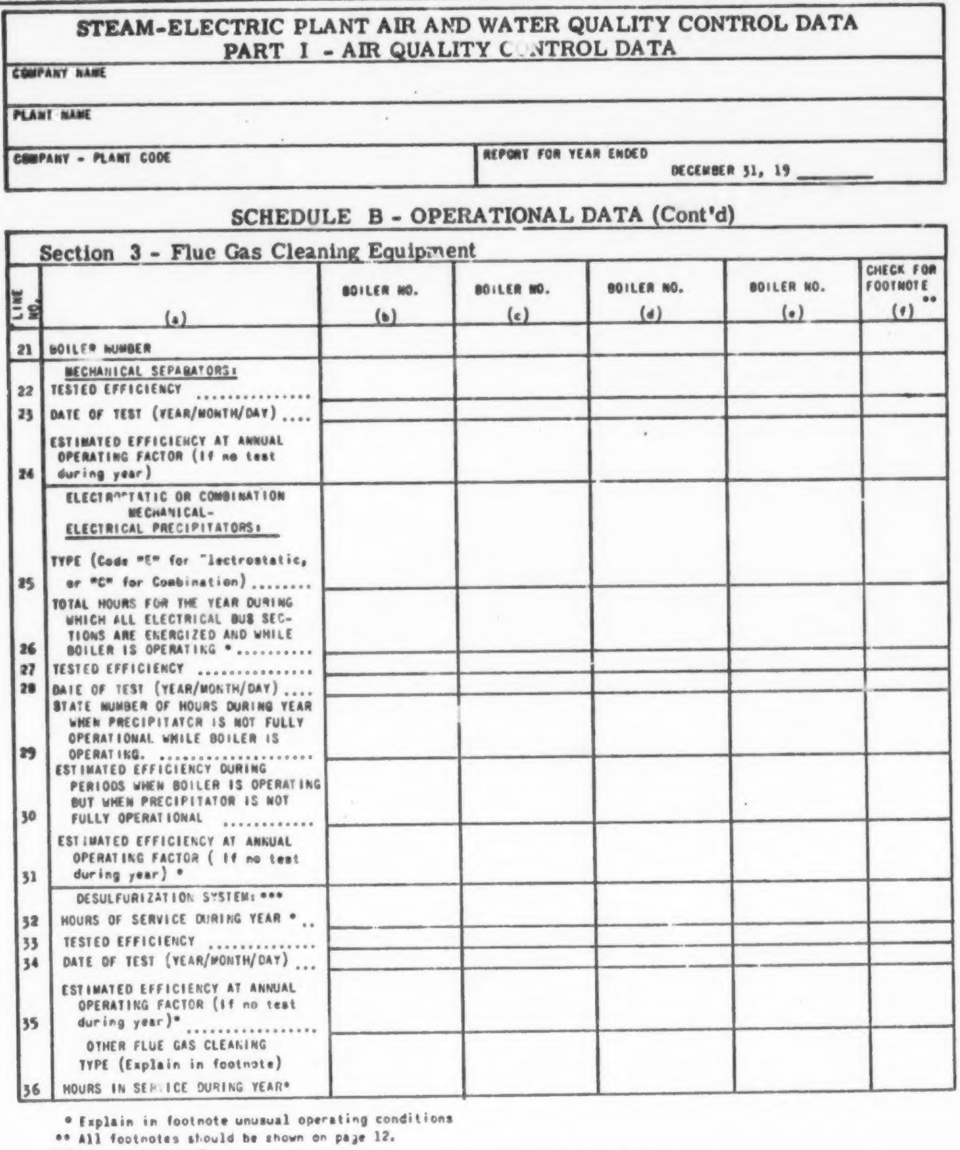
In addition to the NEDS retrieval, FPC retrievals are possible by FPC company and plant ID. Each desired FPC Company ID Number/Plant ID Number combination must be specified.

2.7.1.3 SORTS AVAILABLE

The report format is fixed, so no optional sorts are available to the user.

2.7.1.4 SAMPLE REPORT

The Sample Report (see below) shows selected pages of an FPC Form 67 together with their corresponding print-outs from the EPA system. As can be seen, the Parts, Schedules, and Sections correspond to those in the Form 67 itself. The headings from the Form 67 are used in the computer print-out. The corresponding page numbers from the Form 67 are shown in the print-out, as well. See Figure 2.7.1.a.



STEAM-ELECTRIC PLANT AIR AND WATER QUALITY CONTROL DATA
PART I - AIR QUALITY CONTROL DATA

COMPANY NAME

PLANT NAME

COMPANY - PLANT CODE

REPORT FOR YEAR ENDED DECEMBER 31, 19 ________

SCHEDULE B - OPERATIONAL DATA (Cont'd)

Section 3 - Flue Gas Cleaning Equipment

LINE NO.	(a)	BOILER NO. (b)	BOILER NO. (c)	BOILER NO. (d)	BOILER NO. (e)	CHECK FOR FOOTNOTE ** (f)
21	BOILER NUMBER					
	MECHANICAL SEPARATORS:					
22	TESTED EFFICIENCY					
23	DATE OF TEST (YEAR/MONTH/DAY)					
24	ESTIMATED EFFICIENCY AT ANNUAL OPERATING FACTOR (If no test during year)					
	ELECTROSTATIC OR COMBINATION MECHANICAL-ELECTRICAL PRECIPITATORS:					
25	TYPE (Code "E" for Electrostatic, or "C" for Combination)					
26	TOTAL HOURS FOR THE YEAR DURING WHICH ALL ELECTRICAL BUS SECTIONS ARE ENERGIZED AND WHILE BOILER IS OPERATING *					
27	TESTED EFFICIENCY					
28	DATE OF TEST (YEAR/MONTH/DAY)					
29	STATE NUMBER OF HOURS DURING YEAR WHEN PRECIPITATOR IS NOT FULLY OPERATIONAL WHILE BOILER IS OPERATING.					
30	ESTIMATED EFFICIENCY DURING PERIODS WHEN BOILER IS OPERATING BUT WHEN PRECIPITATOR IS NOT FULLY OPERATIONAL					
31	ESTIMATED EFFICIENCY AT ANNUAL OPERATING FACTOR (If no test during year) *					
	DESULFURIZATION SYSTEM: ***					
32	HOURS OF SERVICE DURING YEAR * ..					
33	TESTED EFFICIENCY					
34	DATE OF TEST (YEAR/MONTH/DAY) ...					
35	ESTIMATED EFFICIENCY AT ANNUAL OPERATING FACTOR (If no test during year)*					
	OTHER FLUE GAS CLEANING TYPE (Explain in footnote)					
36	HOURS IN SERVICE DURING YEAR*					

* Explain in footnote unusual operating conditions
** All footnotes should be shown on page 12.
*** When operational

Figure 2.7.1.a. FPC Form 67 Report

```
* * * * * * * * * * 072000      CAROLINA POWER & LIGHT CO.                                          1300   WEATHERSPOON        * * * * *

FORM 67 PAGE 6                                         SECTION 3 - FLUE GAS CLEANING EQUIPMENT

YEAR   DATA FOR BOILER NUMBER:
1969     1
1970     1
1971     1
1972     1
 - - - - -MECHANICAL SEPARATORS: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR    TESTED EFFICIENCY   DATE OF TEST                                 ESTIMATED EFFICIENCY
1969                                                                     E+000000080.00
1970                                                                      +000000080.00
1971                                                                      +000000080.00
1972                                                                     E+000000080.00
 - - - - -ELECTROSTATIC (E) OR COMBINATION MECHANICAL-ELECTRICAL (C) PRECIPITATORS: - - - - - - - - - - - - - - - - - - - - - - -
             TOTAL HOURS FULLY                                           HOURS PRECIPITATOR   EST. EFFICIENCY        EST. EFFICIENCY AT
             ENERGIZED WHILE         TESTED          DATE OF TEST        NOT FULLY OPERATING  UNDER SUCH             ANNUAL OPERATING
YEAR  TYPE   BOILER OPERATING        EFFICIENCY      (YEAR/MON/DAY)      WHILE BOILER IS      CONDITIONS             FACTOR
 - - - - -DESULFURIZATION SYSTEM: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                                     ESTIMATED EFFICIENCY   OTHER FLUE GAS
        HOURS OF SERVICB                                             AT ANNUAL OPERATING    CLEANING EQUIPMENT
YEAR    DURING YEAR          TESTED EFFICIENCY   DATE OF TEST        FACTOR (IE NO TEST)    HOURS IN SERVICE
FORM 67 PAGE 6                                 SECTION 3 - FLUE GAS CLEANING EQUIPMENT

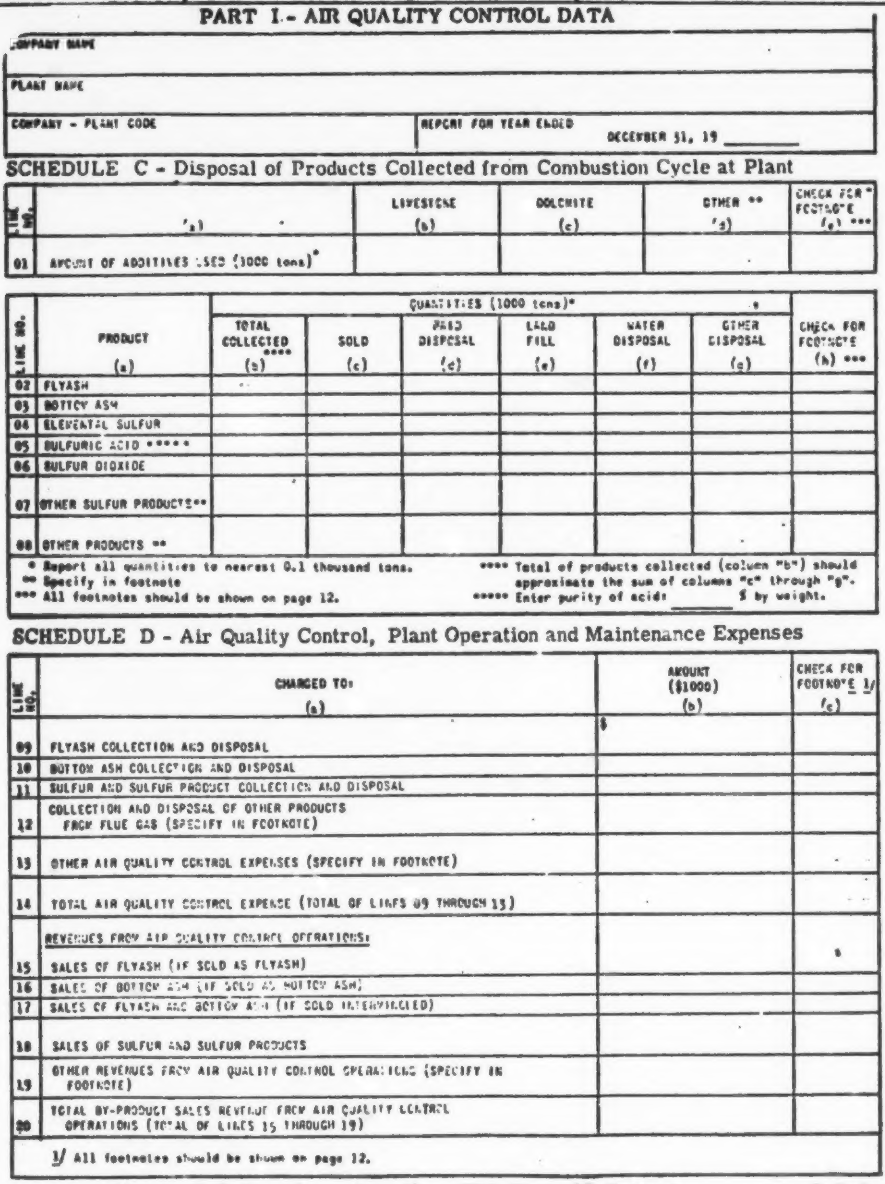
YEAR   DATA FOR BOILER NUMBER:
1969     2
1970     2
1971     2
1972     2
 - - - - -MECHANICAL SEPARATORS: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR    TESTED EFFICIENCY   DATE OF TEST                                 ESTIMATED EFFICIENCY
1969                                                                     E+000000080.00
1970                                                                      +000000080.00
1971                                                                      +000000080.00
1972                                                                     E+000000080.00
 - - - - -ELECTROSTATIC (E) OR COMBINATION MECHANICAL-ELECTRICAL (C) PRECIPITATORS: - - - - - - - - - - - - - - - - - - - - - - -
             TOTAL HOURS FULLY                                           HOURS PRECIPITATOR  EST. EFFICIENCY         EST. EFFICIENCY AT
             ENERGIZED WHILE         TESTED          DATE OF TEST        NOT FULLY OPERATING UNDER SUCH              ANNUAL OPERATING
YEAR  TYPE   BOILER OPERATING        EFFICIENCY      (YEAR/MON/DAY)      WHILE BOILER IS     CONDITIONS              FACTOR
 - - - - -DESULFURIZATION SYSTEM: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                                     ESTIMATED EFFICIENCY  OTHER FLUE GAS
        HOURS OF SERVICE                                             AT ANNUAL OPERATING   CLEANING EQUIPMENT
YEAR    DURING YEAR          TESTED EFFICIENCY   DATE OF TEST        FACTOR (IF NO TEST)   HOURS IN SERVICE
```

Figure 2.7.1.a (continued). FPC Form 67 Report

```
FORM 67 PAGE 6                                   SECTION 3 - FLUE GAS CLEANING EQUIPMENT

YEAR   DATA FOR BOILER NUMBER:
1969    3
1970    3
1971    3
1972    3
 - - - - -MECHANICAL SEPARATORS: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR    TESTED EFFICIENCY   DATE OF TEST                          ESTIMATED EFFICIENCY
1969                                                              E+000000080.00
1970                                                               +000000080.00
1971                                                               +000000080.00
1972                                                              E+000000080.00
 - - - - -ELECTROSTATIC (E) OR COMBINATION MECHANICAL-ELECTRICAL (C) PRECIPITATORS: - - - - - - - - - - - - - - - - - -
              TOTAL HOURS FULLY                                        HOURS PRECIPITATOR    EST. EFFICIENCY     EST. EFFICIENCY AT
              ENERGIZED WHILE        TESTED          DATE OF TEST      NOT FULLY OPERATING   UNDER SUCH          ANNUAL OPERATING
YEAR  TYPE    BOILER OPERATING       EFFICIENCY      (YEAR/MON/DAY)    WHILE BOILER IS       CONDITIONS          FACTOR
 - - - - -DESULFURIZATION SYSTEM: - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
                                                               ESTIMATED EFFICIENCY    OTHER FLUE GAS
         HOURS OF SERVICE                                      AT ANNUAL OPERATING     CLEANING EQUIPMENT
YEAR     DURING YEAR          TESTED EFFICIENCY  DATE OF TEST  FACTOR (IF NO TEST)     HOURS IN SERVICE
*****************************************************************************************************************************
```

Figure 2.7.1.a (continued). FPC Form 67 Report



PART I.- AIR QUALITY CONTROL DATA

COMPANY NAME

PLANT NAME

COMPANY - PLANT CODE

REPORT FOR YEAR ENDED DECEMBER 31, 19 ________

SCHEDULE C - Disposal of Products Collected from Combustion Cycle at Plant

LINE NO.	(a)	LIMESTONE (b)	DOLOMITE (c)	OTHER ** (d)	CHECK FOR FOOTNOTE (e) ***
01	AMOUNT OF ADDITIVES USED (1000 tons)*				

LINE NO.	PRODUCT (a)	QUANTITIES (1000 tons)* TOTAL COLLECTED **** (b)	SOLD (c)	PAID DISPOSAL (d)	LAND FILL (e)	WATER DISPOSAL (f)	OTHER DISPOSAL (g)	CHECK FOR FOOTNOTE (h) ***
02	FLYASH							
03	BOTTOM ASH							
04	ELEMENTAL SULFUR							
05	SULFURIC ACID *****							
06	SULFUR DIOXIDE							
07	OTHER SULFUR PRODUCTS**							
08	OTHER PRODUCTS **							

* Report all quantities to nearest 0.1 thousand tons.
** Specify in footnote
*** All footnotes should be shown on page 12.
**** Total of products collected (column "b") should approximate the sum of columns "c" through "g".
***** Enter purity of acid: ________ % by weight.

SCHEDULE D - Air Quality Control, Plant Operation and Maintenance Expenses

LINE NO.	CHARGED TO: (a)	AMOUNT ($1000) (b)	CHECK FOR FOOTNOTE 1/ (c)
09	FLYASH COLLECTION AND DISPOSAL	$	
10	BOTTOM ASH COLLECTION AND DISPOSAL		
11	SULFUR AND SULFUR PRODUCT COLLECTION AND DISPOSAL		
12	COLLECTION AND DISPOSAL OF OTHER PRODUCTS FROM FLUE GAS (SPECIFY IN FOOTNOTE)		
13	OTHER AIR QUALITY CONTROL EXPENSES (SPECIFY IN FOOTNOTE)		
14	TOTAL AIR QUALITY CONTROL EXPENSE (TOTAL OF LINES 09 THROUGH 13)		
	REVENUES FROM AIR QUALITY CONTROL OPERATIONS:		
15	SALES OF FLYASH (IF SOLD AS FLYASH)		
16	SALES OF BOTTOM ASH (IF SOLD AS BOTTOM ASH)		
17	SALES OF FLYASH AND BOTTOM ASH (IF SOLD INTERMINGLED)		
18	SALES OF SULFUR AND SULFUR PRODUCTS		
19	OTHER REVENUES FROM AIR QUALITY CONTROL OPERATIONS (SPECIFY IN FOOTNOTE)		
20	TOTAL BY-PRODUCT SALES REVENUE FROM AIR QUALITY CONTROL OPERATIONS (TOTAL OF LINES 15 THROUGH 19)		

1/ All footnotes should be shown on page 12.

Figure 2.7.1.a (continued). FPC Form 67 Report

```
* * * * * * * * * * 07200     CAROLINA POWER & LIGHT CO.                                              1300 WEATHERSPOON                         * * * * *

FORM 67 PAGE 7                SCHEDULE D - AIR QUALITY CONTROL, PLANT OPERATION AND MAINTENANCE EXPENSE

- - - - - - - - - - - - - - - - - - - - - - - COLLECTION AND DISPOSAL EXPENSES ($1000) - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR     FLYASH                   BOTTOM ASH          SULFUR AND PRODUCTS              OTHER FLUE GAS PROD.         OTHER AQC EXPENSE           TOTAL AQC EXPENSE
1969     E+000000033.00           E+000000008.00                                                                                                E+000000041.00
1970     E+000000051.00           E+000000018.00                                                                                                E+000000064.00
1971     E+000000035.40           E+000000006.60                                                                                                E+000000042.00
1972     E+000000054.40           E+000000013.60                                                                                                E+000000068.00

  - - - - - - - - - - - - - - - - - - - REVENUES FROM AIR QUALITY CONTROL OPERATIONS ($1000)- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR     SALES OF                  SALES OF                 SALES OF FLYASH           SALES OF SULFUR          OTHER AQC                  TOTAL AQC
         FLYASH                    BOTTOM ASH               AND BOTTOM ASH            AND SULFUR PRODUCTS      REVENUES                   REVENUES

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
```

Figure 2.7.1.a (continued). FPC Form 67 Report

```
* * * * * * * * * * 07200   CAROLINA POWER & LIGHT CO.                                   1300     WEATHERSPOON                  * * * * *

FORM 67 PAGE 7              SCHEDULE C - DISPOSAL OF PRODUCTS COLLECTED BY COMBUSTION CYCLE AT PLANT
                                         (ALL QUANTITIES EXPRESSED IN UNITS OF 1000 TONS)

- - - - - AMOUNT OF ADDITIVES USED (1000 TONS) - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR            LIMESTONE               DOLOMITE              OTHER

- - - - - FLYASH                   - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                    SOLD             PAID DISPOSAL          LAND FILL              WATER DISPOSAL          OTHER DISPOSAL
1969      E+000000017.00                                                       E+000000017.00
1970      E+000000015.30                                                       E+000000015.30
1971      E+000000013.10                                                       E+000000013.10
1972      E+000000014.10                                                       E+000000014.10

- - - - - BOTTOM ASH               - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                    SOLD             PAID DISPOSAL          LAND FILL              WATER DISPOSAL          OTHER DISPOSAL
1969      E+000000005.00                                                       E+000000005.00
1970      E+000000004.80                                                       E+000000004.80
1971      E+000000004.10                                                       E+000000004.10
1972      E+000000004.40                                                       E+000000004.40

- - - - - ELEMENTAL SULFUR         - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                    SOLD             PAID DISPOSAL          LAND FILL              WATER DISPOSAL          OTHER DISPOSAL

- - - - - SULFURIC ACID            - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                    SOLD             PAID DISPOSAL          LAND FILL              WATER DISPOSAL          OTHER DISPOSAL
YEAR   PURITY OF ACID

- - - - - SULFUR DIOXIDE           - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                    SOLD             PAID DISPOSAL          LAND FILL              WATER DISPOSAL          OTHER DISPOSAL
- - - - - OTHER SULFUR PRODUCTS    - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                    SOLD             PAID DISPOSAL          LAND FILL              WATER DISPOSAL          OTHER DISPOSAL

          OTHER PRODUCTS           - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
YEAR      COLLECTED                    SOLD             PAID DISPOSAL          LAND FILL              WATER DISPOSAL          OTHER DISPOSAL

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
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Figure 2.7.1.a (continued). FPC Form 67 Report

The Energy Data File is currently being developed by the Strategies and Air Standards Division. After the system development is complete and data have been loaded, retrievals will be available through the Data Processing Section of NADB.

Various data sets are used with the AEROS system as source of emissions related information. These included, for example, data on fuel usage, on traffic counts, and on census counts. The data sets currently utilized by AEROS include the following:

Area Source Apportioning
NEDS Verification File
Census Data
Polk Vehicle Data
Federal Power Commission Report (Form 423)

EPA has developed a computerized methodology whereby fuel consumption by stationary area sources and all mobile sources can be collected on an annual basis according to county. The data collected include aircraft activity and organic solvent use. These data are used as input to several computer programs that produce NEDS area source cards for updating the NEDS area source data file. As a result, the NEDS area source update program may be considered a means by which the data may be presented in printed form. Following are some examples of the data involved.

State Level Data

Item	Data Values
Residential Gas Consumption	52
Percentage Growth in Gas Customers	52
Conversion to Gas Heating	156
Additions to Gas Heating	156
Population Growth Rate	52
Bituminous Coal Shipments, Retail	52
Anthracite Coal Shipments	52
LPG Residential Consumption	52
Industrial Gas Consumption	52
Industrial LPG Consumption	52
Industrial Bituminous Coal Shipments	52
Fuel Consumption, Industrial (x 20 SIC)	1092
Industrial Employment (x 20 SIC)	1092
Coal Shipments (Industrial and Retail) (x Prod. District)	2392
Commercial LPG Consumption	52
Other Gas Consumption	52
Public School Employment	52
Motorcycle Registrations	52
Boat Registrations	52
Population (Current Year)	52
Anthracite Market Share	52
Tractor/Farm Equipment Scaling Factors	1092
Hotel Room/Employee Ratio	52
Snowmobile Registrations	52
Heating Oil Consumption	208
Industrial Oil Consumption	104
Oil Company Oil Consumption	104
Military Oil Consumption	104
Highway Vehicles Fuel Sales	156
Housing Units-Census Year	260
Change in Housing Units Since Census	52
Average Degree-Days	52
Population (Census Year)	52

Item	Data Values
Commercial Employment (x 9 SIC)	468
Motor Vehicle Registrations	416
Average Miles Per Year Driven by Trucks	208
County Levels Data	
LTO's at Military Airports	8000
LTO's at Civil Airports	8000
Aircraft Registrations	8000
Hospital Beds	14000
Hospital Employment	7000
Public University Enrollment	2000
Inland Water Area	6282
Farm Tractors	6282
Housing Units-Census Year	15500
Degree-Days	3100
Commercial Employment (x 9 SIC)	27900
Manufacturing Employment (x 20 SIC)	65100
Motor Vehicle Registrations	18600
Retail Sales of Gasoline	6282
Coastline	6282
Population (Current Year)	6282
Regional	
Water Heater Gas Consumption	9
Cooking Range Gas Consumption	9
Sulfur Content (Retail-Industrial)	69
National Level Data	
Synthetic Organic Solvent Production	15
Special Naphtha Production	1
Construction (Gasoline and Diesel)	2
Motorcycle (km/yr, gal/km)	10
Tractor (hr/yr, gal/hr)	4
Industrial (Gasoline and Diesel)	2
Lawn and Garden Gasoline	1
Snowmobile Gasoline	1

The NEDS VERIFICATION FILE represents the major route by which a previously unrecorded facility is brought to state/region attention to be entered into the NEDS point source data file. To this end information is gathered from industrial trade journals, government publications, independent outside requests, and government data bases, and cross-checked against the NEDS point source data file. Sources not found in NEDS but which seem with high probability to meet the NEDS criteria for point sources are added to the NEDS VERIFICATION FILE.

In order for a facility to be added to the NEDS VERIFICATION FILE, the following information must be available:

1. Name and address of the facility
2. State and county geographical codes
3. SCC code (if at all possible)

Additions may be made by means of any of these methods:

1. Dodge reports
2. Independent cross-checking studies on an industry-by-industry basis
3. Reports by anyone that a facility that may meet NEDS criteria for a point sourceeexists but is not yet in NEDS
4. Sources in CDS or HATREMS that should be "registered" in NEDS
5. FPC Form 67
6. Others

Data are not removed from the NEDS VERIFICATION FILE until the responsible state agency verifies whether the polluting facility should be classified as a NEDS point source, and if so, until it is entered into the NEDS point source data file.

All data contained in the NEDS VERIFICATION FILE can be printed in NEDS point source or condensed point source format. Point source data are printed for the specified geographical areas according to standard NEDS retrievals. The format is similar to the NEDS (see 2.1.1.1 and 2.1.1.2) except for the following:

1. In most cases very little information is available and filled into the report.
2. The word "UNVERIFIED" is printed at the top of the page on both sides of the heading.
3. The ownership code is used to represent the source of the unverified entry as follows:

Dodge	-	Dodge Reports of New Construction
B contact	-	Independent Contact or other effort to check industries.

The NEDS VERIFICATION FILE is available to EPA regional offices, state/local agencies, and contractors for use in their NEDS data collection activities.

Figure 2.10.2.a shows a sample verification file report in the point source form.

```
                              NATIONAL EMISSION DATA SYSTEM

                  UNVERIFIED       POINT SOURCE LISTING       UNVERIFIED

STATE(26):  MISSOURI          AQCR(070):  METROPOLITAN ST. LOUIS (111-MO)          CITY(4280):  ST LOUIS
COUNTY(4280):  ST LOUIS                              PLANT ID:  0023  POINT ID:  02

NAME-ADDRESS:  MONSANTO CO.1700 S.SECOND ST.      SIC(2899):  CHEMICALS AND CHEMICAL PREPARATIONS, NOT ELSEWHERE CLASSIFIED
PERSONAL CONTACT:  A.PETERSON    SCC(1-02-002 09):  EXTCOMB BOILER    -INDUSTRIAL      -BITUMINOUS COAL    -10-100MMBTUSPDSTK

---------------------------------------------------------------------------------------------------------------------------
! GENERAL INFORMATION     ! UTM GRID COORDINATES        ! HAND CALCULATED EMISSION ESTIMATES   ! ALLOWABLE EMISSIONS           !
! ******************      ! *******************         ! **********************************   ! ******************            !
! YEAR OF RECORD:  1972   !       UTM ZONE:  15         ! PARTICULATE:       0 TONS/YR         !   PARTICULATE:    369 TONS/YR !
!                         !                             !         SOX:       0 TONS/YR         !           SOX: 13,000 TONS/YR !
! OWNERSHIP DODGE         !    HORIZONTAL:    743.0 KM  !         NOX:     117 TONS/YR         !           NOX:      0 TONS/YR !
!                         !      VERTICAL:  4,276.5 KM  !          HC:      11 TONS/YR         !            HC:      0 TONS/YR !
! IPP PROCESS:  60        !-----------------------------!          CO:      13 TONS/YR         !            CO:      0 TONS/YR !
!                         ! STACK PARAMETERS            !--------------------------------------!-------------------------------!
! SOURCE:  BOILER         ! ****************            ! EMISSION ESTIMATION METHODS          ! COMPUTER CALCULATED EMISSIONS !
!                         ! STACK HEIGHT:        150 FT ! ***************************          ! ***************************** !
!                         ! STACK DIAMETER:      5.0 FT ! PART:  EMISSION FACTOR(AP-42 OR PENDING) !   PART:    710     TONS/YR  !
! NORMAL OPERATIONS       ! GAS TEMPERATURE:     325 F  !  SOX:  EMISSION FACTOR(AP-42 OR PENDING) !                            !
! *****************       ! GAS FLOW RATE:  18.077 ACFM !  NOX:  EMISSION FACTOR(AP-42 OR PENDING) !    SOX:    709     TONS/YR  !
!      HOURS/DAY:  24     ! PLUME HT(NO STACK):    0 FT !   HO:  EMISSION FACTOR(AP-42 OR PENDING) !                            !
!       DAYS/WEEK:  7     !                             !   CO:  EMISSION FACTOR(AP-42 OR PENDING) !    NOX:    100     TONS/YR  !
!     WEEKS/YEAR:  52     !--------------------------------------------------------------------!                               !
!                         ! CONTROL DEVICE/METHOD IDENTIFICATION              ! CONTROL        !     HC:      7     TONS/YR  !
! % ANNUAL THROUGHPUT     ! ************************************              ! EFFICIENCIES   !                               !
! *******************     ! PRIMARY PART:  NO CONTROL EQUIPMENT               ! ************   !     CO:     13     TONS/YR  !
!        DEC-FEB:  25 %   ! SECOND. PART:  NO CONTROL EQUIPMENT               ! PART: 00.0 %   !                               !
!        MAR-MAY:  25 %   !                                                   !                !                               !
!       JUNE-AUG:  25 %   !  PRIMARY SOX:  NO CONTROL EQUIPMENT               !  SOX: 00.0 %   !                               !
!       SEPT-NOV:  25 %   !  SECOND. SOX:  NO CONTROL EQUIPMENT               !                !                               !
!                         !                                                   !                !                               !
! % SPACE HEAT:  10.0 %   !  PRIMARY NOX:  NO CONTROL EQUIPMENT               !  NOX: 00.0 %   !                               !
!                         !  SECOND. NOX:  NO CONTROL EQUIPMENT               !                !                               !
! COMPLIANCE INFC         !                                                   !                !                               !
! ***************         !   PRIMARY HC:  NO CONTROL EQUIPMENT               !   HC: 00.0 %   !                               !
! IN COMPLIANCE           !   SECOND. HC:  NO CONTROL EQUIPMENT               !                !                               !
!                         !                                                   !                !                               !
! SCHEDULED               !   PRIMARY CO:  NO CONTROL EQUIPMENT               !   CO: 00.0 %   !                               !
! COMPLIANCE DATE:  /     !   SECOND. CO:  NO CONTROL EQUIPMENT               !                !-------------------------------!
!                         !---------------------------------------------------------------------------------------------------!
! COMPLIANCE STATUS       ! FUEL CHARACTERISTICS          ! OPERATING RATES                                                   !
! UPDATE:        / /      ! ********************          ! ***************                                                   !
!                         !                               !   ANNUAL OPERATING RATE:      13,300 TONS BURNED                  !
! EMERGENCY CONTROL       ! FUEL SULFUR CONTENT:  2.80 %  !                                                                   !
! ACTION PLAN             !                               !  HOURLY MAXM DESIGN RATE:      1.523 TONS BURNED                  !
! *****************       !   FUEL ASH CONTENT:  08.2 %   !                                                                   !
! HAS BEEN SUBMITTED      !                               !   BOILER DESIGN CAPACITY:        57 MILLION BTU/HR                !
!                         !                               !-------------------------------------------------------------------!
!                         !  FUEL HEAT CONTENT:      23 MILLION BTU/TONS BURNED             COMMENTS:  GEYER AVE NO. 13     !
---------------------------------------------------------------------------------------------------------------------------
```

Figure 2.10.2.a. Point Source Reports

EPA maintains census data tapes that may be used directly as input to numerous AEROS systems and analysis packages. These data files are used in updating NEDS area source files.

Vehicle registration data are collected annually for each county in the nation by the R.L. Polk Company. The numbers of registered automobiles are listed according to model year. The numbers of registered trucks are listed for five weight classes according to model year. In each case, only the 10 model years preceeding the year under consideration are represented. All of these data are stored in machine readable format on computer tape.

The Polk vehicle files for 1973 have been purchased by EPA. They will be used to determine the vehicle "mix" within each county and the input parameter needed for the NEDS area source update program. Other reports are currently being developed and will be added in the future.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** REPORT CAPABILITEES	**SECTION** 2	**CHAPTER** 10	**SUBJECT** 6
NATIONAL AIR DATA BRANCH	**CHAPTER** AUXILIARY DATA	**DATE** 9/30/75		**PAGE** 1
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** FEDERAL POWER COMMISSION FORM 423			

Monthly data on fuel inventories, supplies, and purchases for all power plants in the United States are collected by the Federal Power Commission and submitted to EPA on data tapes in machine-readable format. EPA, in turn, maintains these tapes in order to make them easily accessible to AEROS users. No printed output is available from these data files.

Included with the AEROS system are various analysis packages for use with the AEROS data bases. These packages are described in the sections that follow.

The Source Inventory and Emission Factor Analysis System (SIEFA) is a computerized system for estimating the precision and the accuracy of NEDS emissions data. This system estimates precision of a NEDS emission report, based on the precision of the basic NEDS information. It indicates the accuracy of the report by providing an accounting of missing emission estimates. This is an essential tool in establishing the reliability of a NEDS inventory.

The Weighted Sensitivity Analysis Program (WSAP) is a computerized analysis designed to estimate the tolerable error for each source category in the NEDS emission inventory files. WSAP is used chiefly as a managerial tool to determine how much effort should be expended to improve the emission inventory for each source category.

The Regional Emissions Projection System (REPS) utilized the existing NEDS point and area source data together with various future socio-economic growth factors to estimate air pollutant emissions up to the year 2000. REPS can also be used as a management tool for evaluating air pollution control strategies.

The Computer Assisted Area Source Emissions Gridding Procedure (CAASE) is a computerized gridding procedure designed to aid in the allocation of country-wide area source emissions into a finer grid system. The output of this system is suitable for use as data input for area source emissions to diffusion modeling program.

The SIEFA analysis package was developed to provide estimates of the precision and accuracy of the NEDS emission data for each source category in a given geographical area. The NEDS area and point source files, together with five SIEFA Tables, are used to evaluate the precision and accuracy of the emissions estimates associated with each point source and area source category. The SIEFA system can also be used to identify errors in emission estimates that need to be resolved.

The emission estimating data contained in the NEDS system (see Section 2.1.0) are the bases for air pollutant emission inventories. Because most of the contents of these emission inventories are based on the use of estimated emission factors and estimated control equipment efficiencies, it is essential that these factors be as reliable as possible. Furthermore, an emission inventory can be most useful only when its accuracy has been established and the precision of its estimation is known. In order to establish this precision and accuracy, it is necessary to know the precision of the factors on which the inventory is based and to analyze the effect of missing data. The SIEFA tables contain estimates of the precision of these factors and the SIEFA programs provide the capability for estimating overall emission inventory reliability by evaluating the effect of these factors in the overall emission calculation and by estimating the missing emissions data.

The internal SIEFA tables contain precalculated precisions (expressed as variances) associated with NEDS emission factors and NEDS data used for emissions calculations (e.g., control efficiencies, operating rates, or sulfur and ash contents). Standard statistical techniques are used in estimating these variances whenever possible, although some estimates, such as the precision of sulfur and ash content for various fuels, are based on engineering judgment and are therefore more general in nature. A major part of the SIEFA system is devoted to the estimating of the precision associated with emission inventories of mobile sources (emission factors, deterioration factors, vehicle mix data, etc.).

In the SIEFA system, "estimated emissions" are those emissions calculated or estimated by the NEDS procedure and correspond to those emissions in the various NEDS emission reports. "Approximated emissions" are emissions either supplied from the field and appearing in the NEDS master file, but not included as part of the reported emissions for a source because they are overridden by a computer calculated emission value, or calculated by the SIEFA program using "typical" values from the tables. For each of the point sources in which an estimated emission value is missing, the SIEFA system attempts to "approximate" the emission value in order to provide a guide as to the accuracy (completeness) of the NEDS data analyzed. This is done by attempting to find or calculate an "approximate" emission rate for the point source. When an "approximated" emission value can be determined, it is included in the fifth column of the report for the relevant category, subtotals, and totals only, and a count or the point sources so "approximated" is included in the fourth column of the report. In those cases in which the NEDS file contains neither an estimated emissions rate nor sufficient information to estimate emissions by the standard NEDS calculation procedure, SIEFA will attempt to approximate an emission rate from standard information known about a source category.

The field-reported estimated emissions values are probably closer approximations to the true values than are those determined from the "typical" tables in the SIEFA system. Therefore, in the SIEFA procedure a field-reported "estimated" emission value is used as an "approximated" value if available; if not, the "typical" tables are used to approximate the emissions values. An "approximated" emission value is never analyzed for precision in the SIEFA system.

For the purpose of understanding the SIEFA reports, the terms "accuracy" and "precision" need some definition. Accuracy refers to the completeness of an inventory or to the amount of error that might be introduced by missing emission estimates for individual sources. Accuracy also refers to that error that might be introduced through biases in the emission factors, thruputs, control efficiencies, etc. used for estimating emissions. Precision refers to the amount of variability that may be normally expected about an emission estimate because of variations in the many factors and quantities that are involved in the estimation. SIEFA gives an indication of inventory accuracy by counting NEDS sources that have insufficient information stored to estimate emissions under the NEDS emission estimating procedures, and approximating emissions from these sources by substituting standard values for the missing data. Unfortunately, bias errors are very difficult to quantitatively determine and thus are not dealt with in SIEFA. Inventory precision is estimated in SIEFA by using error propagation relationships to derive the standard deviation of the overall emission estimates from the known standard deviations of the factors used in the emissions calculations.

In the SIEFA report, the standard deviation is used to indicate the degree of precision of the inventory. This standard deviation is also reported as a percentage of the emission estimate to provide a dimensionless indication of the relative magnitudes of the standard deviation with respect to the estimated value.

In certain cases, the SIEFA procedure may result in the inclusion of excess "approximated emissions" when field-reported emissions are used. The program does not apportion field-reported emissions among the SCC's for a single point source that has more than one SCC associated with it. The value reported in such cases is duplicated for each SCC. The net overestimation, in most cases, is rather small.

3.1.1.1. GENERAL DESCRIPTION

The SIEFA report contains the quantity of estimated emissions in the selected NEDS subfile for the specified point and area source categories, plus certain major category subtotals and a grand total. Where the appropriate parameters are available in the NEDS data base or in the SIEFA Tables, the report also includes the precisions (standard deviations and percent standard deviations) of the estimated emissions. Well-defined procedures exist within the SIEFA system for approximating or estimating emissions for cases where actual measurements are not available. The output (report) is an inventory of all area and point source emissions in the specified geographical-political subdivision for a single pollutant. Analyses for more than one pollutant (up to five) may be requested in a single computer run, but each pollutant is reported separately. Any one of seven types of geographical-political entities may be selected. Either one of two types of error messages ("detailed" or "short") may also be specified.

3.1.1.2. RETRIEVALS AVAILABLE

The selection options for geographical regions are:

a. One county
b. All counties in a state (includes state summary)
c. One state (state summary only)
d. All states (includes national summary)
e. One AQCR (AQCR summary only)
f. National summary (only)
g. Selected set of counties (includes summary)

One and only one geographical area selection must be included in each SIEFA report request.

3.1.1.3. SORTS AVAILABLE

There are no optional sorts available to the user. The pollutant types may be specified in any order for a multipollutant request, but the types will appear in the report in the following order:

a. Particulates
b. Sulfur dioxide
c. Nitrogen oxides
d. Hydrocarbons
e. Carbon monoxide

3.1.1.4. SAMPLE REPORT

Figure 3.1.1.a. is an example of a "Type 1" (one county) report for one pollutant (particulates in Bond County, Illinois).

3.1.1.5. USER ACCESS

The SIEFA report request procedure will work for batch, remote batch, or demand terminals.

```
PAGE  1                                                                                                   APRIL 11, 1975
                                                       NEDS RELIABILITY ANALYSIS

              AQCR(070):      METROPOLITAN ST. LOUIS
              STATE(14):      ILLINOIS
              COUNTY(0520):   BOND CO

                                                              PARTICULATES
                                                       EMISSIONS IN TONS PER YEAR
                                            ESTIMATED          EMISSION        PERCENT        NO. OF SOURCES        EST AND APPROX.
                                              TOTAL            STD. DEV.       STD. DEV.       APPROXIMATED            EMISSIONS
FUEL COMBUSTION
***************

    EXTERNAL COMBUSTION
        RESIDENTIAL FUEL (AREA)
            ANTHRACITE COAL
            BITUMINOUS COAL                   55.19              11.90           21.57              0                    55.19
            DISTILLATE OIL                    11.75               2.76           23.52              0                    11.75
            RESIDUAL OIL
            NATURAL GAS                        2.75               0.60           21.78              0                     2.75
            WOOD                               2.50               1.48           59.37              0                     2.50

            TOTAL (RESIDENTIAL)               72.20              12.33           17.07              0                    72.20

        ELEC GENERATION (POINT)
            ANTHRACITE COAL
            BITUMINOUS COAL
            LIGNITE
            RESIDUAL OIL
            DISTILLATE OIL
            NATURAL GAS
            PROCESS GAS
            COKE
            BAGASSE
            SOLID WASTE/COAL
            OTHER

            TOTAL (ELEC GEN)
```

Figure 3.1.1.a. SIEFA Report

PAGE 2

APRIL 11, 1975

PARTICULATES
EMISSIONS IN TONS PER YEAR

	ESTIMATED TOTAL	EMISSION STD. DEV.	PERCENT STD. DEV.	NO. OF SOURCES APPROXIMATED	EST AND APPROX EMISSIONS
INDUSTRIAL FUEL					
ANTHRACITE COAL					
AREA SOURCES					
POINT SOURCES					
BITUMINOUS COAL					
AREA SOURCES	36.91	74.65	202.20	0	36.91
POINT SOURCES					
LIGNITE					
POINT SOURCES					
RESIDUAL OIL					
AREA SOURCES	0.34	0.07	21.22	0	0.34
POINT SOURCES					
DISTILLATE OIL					
AREA SOURCES	0.29	0.06	21.22	0	0.29
POINT SOURCES					
NATURAL GAS					
AREA SOURCES	0.53	0.13	24.62	0	0.53
POINT SOURCES					
PROCESS GAS					
AREA SOURCES					
POINT SOURCES					
COKE					
AREA SOURCES					
POINT SOURCES					
WOOD					
AREA SOURCES					
POINT SOURCES					
LIQUID PETROL GAS					
POINT SOURCES					
BAGASSE					
POINT SOURCES					
OTHER					
POINT SOURCES					
TOTAL (INDUSTRIAL)					
AREA SOURCES	38.10	74.65	195.91	0	38.10
POINT SOURCES					

Figure 3.1.1.a (continued). SIEFA Report

```
PAGE    3                                                                                  APRIL 11, 1975

                                                    PARTICULATES
                                              EMISSIONS IN TONS PER YEAR
                             ESTIMATED             EMISSION         PERCENT       NO. OF SOURCES      EST AND APPROX
                               TOTAL              STD. DEVL.       STD. DEV.       APPROXIMATED         EMISSIONS

COMM-INSTITUTIONAL FUEL
   ANTHRACITE COAL
      AREA SOURCES
      POINT SOURCES
   BITUMINOUS COAL
      AREA SOURCES
      POINT SOURCES
   LIGNITE
      POINT SOURCES
   RESIDUAL OIL
      AREA SOURCES             8.73                2.23            25.54               0                  8.73
      POINT SOURCES
   DISTILLATE OIL
      AREA SOURCES             0.00                0.00              .00               0                  0.00
      POINT SOURCES
   NATURAL GAS
      AREA SOURCES             1.61                0.35            21.68               0                  1.61
      POINT SOURCES
   WOOD
      AREA SOURCES
      POINT SOURCES
   LIQUID PETROL GAS
      POINT SOURCES
   OTHER
      POINT SOURCES

   TOTAL (COMM-INST)
      AREA SOURCES            10.35                2.25            21.82               0                 10.35
      POINT SOURCES

OTHER (POINT)

TOTAL (EXTERNAL COMB)
   AREA SOURCES              120.66               75.69            62.73               0                120.66
   POINT SOURCES
```

Figure 3.1.1.a (continued). SIEFA Report

```
PAGE  4                                                                                            APRIL 11, 1975

                                                        PARTICULATES
                                                EMISSIONS IN TONS PER YEAR
                                 ESTIMATED               EMISSION          PERCENT        NO. OF SOURCES      EST AND APPROX
                                   TOTAL                 STD. DEV.        STD. DEV.        APPROXIMATED         EMISSIONS

INTERNAL COMBUSTION (POINT)
  ELECTRIC GENERATION
    DISTILLATE OIL
    NATURAL GAS
    DIESEL
    OTHER

    TOTAL (ELEC GEN)
  INDUSTRIAL FUEL
    DISTILLATE OIL
    NATURAL GAS
    GASOLINE
    DIESEL FUEL
    OTHER

    TOTAL (INDUSTRIAL)

  COMM-INSTITUTIONAL
    DIESEL
    OTHER

    TOTAL (COMM-INST)

  ENGINE-TESTING
    AIRCRAFT
    OTHER

    TOTAL (ENG TESTING)

  OTHER (POINT)

  TOTAL (INTERNAL COMB)

TOTAL (FUEL COMBUSTION)
  AREA SOURCES                     120.66                  75.69            62.73              0                120.66
  POINT SOURCES
```

Figure 3.1.1.a (continued). SIEFA Report

```
PAGE     5                                                                                              APRIL 11, 1975



                                                   PARTICULATES
                                             EMISSIONS IN TONS PER YEAR
                              ESTIMATED             EMISSION           PERCENT        NO. OF SOURCES        EST AND APPROX
                                TOTAL               STD. DEV.          STD. DEV.       APPROXIMATED           EMISSIONS

INDUSTRIAL PROCESS (POINT)
**************************
    CHEMICAL MANUFACTURING
    FOOD/AGRICULTURAL
    PRIMARY METAL
    SECONDARY METALS                                                                        1                   6.00
    MINERAL PRODUCTS
    PETROLEUM INDUSTRY
    WOOD PRODUCTS
    EVAPORATION
    METAL FABRICATION
    LEATHER PRODUCTS
    TEXTILE MANUFACTURING
    INPROCESS FUEL                                                                          2                  12.00
    OTHER/NOT CLASSIFIED

    TOTAL (INDUSTRIAL)                                                                      3                  18.00
```

Figure 3.1.1.a (continued). SIEFA Report

```
PAGE    6                                                                                 APRIL 11, 1975

                                               PARTICULATES
                                         EMISSIONS IN TONS PER YEAR
                          ESTIMATED            EMISSION      PERCENT        NO. OF SOURCES      EST AND APPROX
                            TOTAL              STD. DEV.     STD. DEV.       APPROXIMATED         EMISSIONS

SOLID WASTE DISPOSAL
********************
    GOVERNMENT (POINT)
        MUNICIPAL INCINERATION
        OPEN BURNING
        OTHER

        TOTAL (GOVERNMENT)

    RESIDENTIAL (AREA)
        ON SITE INCINERATION      51.14              511.61      1,000.22            0                  51.14
        OPEN BURNING              20.79              208.04      1,000.22            0                  20.79

        TOTAL (RESIDENTIAL)       71.94              552.20        767.61            0                  71.94

    COMMERCIAL-INSTITUTIONAL
        ON SITE INCINERATION
            AREA SOURCES           6.59               66.01      1,000.22            0                   6.59
            POINT SOURCES
        OPEN BURNING
            AREA SOURCES           7.19               72.01      1,000.22            0                   7.19
            POINT SOURCES
        APARTMENT
            POINT SOURCES
        OTHER
            POINT SOURCES

        TOTAL (COMM-INST)
            AREA SOURCES          13.79               97.69        707.93            0                  13.79
            POINT SOURCES
```

Figure 3.1.1.a (continued). SIEFA Report

```
PAGE   7                                                                                              APRIL 11, 1975

                                                    PARTICULATES
                                             EMISSIONS IN TONS PER YEAR
                                 ESTIMATED          EMISSION         PERCENT          NO. OF SOURCES      EST AND APPROX
                                   TOTAL            STD. DEV.        STD. DEV.         APPROXIMATED          EMISSIONS

INDUSTRIAL
    ON SITE INCINERATION
        AREA SOURCES              32.39             324.07         1,000.22                0                  32.39
        POINT SOURCES
    OPEN BURNING
        AREA SOURCES               8.79              88.01         1,000.22                0                   8.79
        POINT SOURCES
    AUTO BODY INCINERATION
        POINT SOURCES
    RAIL CAR BURNING
        POINT SOURCES
    OTHER
        POINT SOURCES

    TOTAL (INDUSTRIAL)
        AREA SOURCES              41.19             335.81           815.07                0                  41.19
        POINT SOURCES

OTHER (POINT)

TOTAL (SOLID WASTE DISP)
    AREA SOURCES                 126.94             653.71           514.94                0                 126.94
    POINT SOURCES
```

Figure 3.1.1.a (continued). SIEFA Report

```
PAGE  8                                                                                             APRIL 11, 1975

                                                      PARTICULATES
                                                EMISSIONS IN TONS PER YEAR
                                ESTIMATED          EMISSION         PERCENT         NO. OF SOURCES       EST AND APPROX
                                  TOTAL            STD. DEV.       STD. DEV.         APPROXIMATED          EMISSION

TRANSPORTATION (AREA)
*********************
  LAND VEHICLES
    GASOLINE
      LIGHT VEHICLES             52.04               8.24           15.83                 0                  52.04
      HEAVY VEHICLES              6.10               0.96           15.88                 0                   6.10
      OFF HIGHWAY                 4.83               1.24           25.79                 0                   4.83

      TOTAL (GASOLINE)           62.98               8.39           13.32                 0                  62.98

    DIESEL
      HEAVY VEHICLES              8.63               1.22           14.15                 0                   8.63
      OFF HIGHWAY                 0.32               0.07           22.63                 0                   0.32
      RAIL                        0.87               0.20           23.34                 0                   0.87

      TOTAL (DIESEL)              9.83               1.24           12.62                 0                   9.83

  AIRCRAFT
    MILITARY                      0.00               0.00             .00                 0                   0.00
    CIVIL                         0.00               0.00             .00                 0                   0.00
    COMMERCIAL                    0.00               0.00             .00                 0                   0.00

    TOTAL (AIRCRAFT)              0.00               0.00             .00                 0                   0.00

  VESSELS
    BITUMINOUS COAL               0.00               0.00             .00                 0                   0.00
    DIESEL FUEL                   0.00               0.00             .00                 0                   0.00
    RESIDUAL OIL                  0.00               0.00             .00                 0                   0.00
    GASOLINE                      0.00               0.00             .00                 0                   0.00

    TOTAL (VESSELS)               0.00               0.00             .00                 0                   0.00

  GAS HANDLING EVAP LOSS          0.00               0.00             .00                 0                   0.00
  TOTAL (TRANSPORTATION)         72.82               8.48           11.65                 0                  72.82
```

Figure 3.1.1.a (continued). SIEFA Report

```
PAGE    9                                                                                   APRIL 11, 1975

                                                              PARTICULATES
                                                      EMISSIONS IN TONS PER YEAR
                                     ESTIMATED          EMISSION       PERCENT       NO. OF SOURCES     EST AND APPROX
                                       TOTAL            STD. DEV.      STD. DEV.      APPROXIMATED        EMISSIONS

 MISCELLANEOUS (AREA)
 ********************
    FOREST FIRE/AGRIC BURNING
    STRUCTURAL FIRES
    COAL REFUSE BURNING
    SLASH BURNING
    FROST CONTROL
    SOLVENT EVAPORATION LOSS           0.00               0.00           .00              0                  0.00
    DUST SOURCES
       DIRT ROADS
       DIRT AIRSTRIPS
       CONSTRUCTION
       ROCK HANDLING/STORING

    TOTAL (MISCELLANEOUS)              0.00               0.00           .00              0                  0.00

 OTHER (POINT)
 *************

 GRAND TOTAL
 ***********
    AREA SOURCES                     320.43             658.14         205.38             0                320.43
    POINT SOURCES                                                                         3                 18.00

    TOTAL                            320.43             658.14         205.38             3                338.43
```

Figure 3.1.1.a (continued). SIEFA Report

3.2.0 WSAP

3.2.1 PROGRAM DESCRIPTION

3.2.1.1 ABSTRACT

The WSAP program analyzes the effects of potential inaccuracies in air pollution emission inventories. The program determines the percentage of allowable error (σ_k) for component elements of the NEDS regional emission inventory in order to maintain an overall error percentage (θ), at a given confidence level, in the total emissions reported by the inventory. The percentage of allowable error for a given emission source category (σ_k) is the normalized standard deviation of the probability density function associated with emissions reported for category (k).

The elements of the NEDS inventory for which allowable percentage of error is specified are any of the emission source categories of the National Emission Report (NER), a summary format for point and area source NEDS data. The NER format is essentially a hierarchical structure of emission source categories at varying levels of aggregation. Thus WSAP may be used to compute the percentage of allowable error for source categories at any of these levels of aggregation.

WSAP may be applied to the emission inventory for any geographic region for which an NER emission summary is available, including the nation, AQCR, state or county. The WSAP does not estimate actual or existing errors in emissions reported for each source category. This analysis can be made by examining the raw NEDS data files and estimating the errors due to emission calculations on an individual point and area source basis.

The WSAP program has two inherent assumptions:

- Allowable errors (σ_k) calculated for each emission source category are mutually independent. This assumption is justified because interdependencies among source category emission errors are considered minor compared to the numerous other causes of emission errors.
- Source category emission errors are statistically random.

The WSAP system user must supply the overall percentage of error (θ) required for total annual emissions for each of the five criteria pollutants. This requirement is a function of the acceptable percentage error interval required for the emission total, and the confidence level associated with that error interval. The program uses standard statistical techniques to compute the σ_k's which are necessary to produce the θ required for the total. The printed output of the system provides

- Annual emissions (tons per year)
- Percent allowable error
- Amount of allowable error (tons per year)

for each of the five criteria pollutants, at each level of aggregation.

3.2.1.2 ORGANIZATION OF THE NER REPORT FORMAT

The component elements of the NEDS emission inventory for which WSAP computes allowable error are the emission source categories of the NER Report. This summary reporting format, an example of which is shown in Figure 3.2.1a, is hierarchical in nature, consisting of a number of successive levels, each of which represents an increased degree of aggregation of emission source categories. This format is the same for all geographic regions. The most disaggregated or elementary level of data of the NER Summary is actually an aggregation of annual emission estimates for a number of point or area sources.

It can be seen from Figure 3.2.1a that the elementary emission data are aggregated to form subtotals, the subtotals are aggregated to form totals, and so on, for four and sometimes five successive levels. The aggregation culminates in the grand total of annual emissions for the region. This structure can be thought of as tree-like, in that the component source categories which are summed to a total or subtotal, are equivalent to the branches of a tree. The WSAP program computes allowable error for each of these successive levels of aggregation.

3.2.1.3 PROGRAM OUTPUT

The standard printed output of WSAP is a series of 33 tables. The tables are interrelated according to the hierarchy of the NER format. Each table

```
                                  NATIONAL EMISSIONS DATA SYSTEM
                                  ******************************
                                  ENVIRONMENTAL PROTECTION AGENCY
                                  *******************************
      NATIONWIDE EMISSIONS REPORT                                        RUN DATE: JANUARY 12, 1974
      ***************************                                 EMISSIONS AS OF: DECEMBER 19, 1973
       UNITED STATES

                          PARTICULATES        SOX            NOX            HC             CO
                         ************** ************** ************** ************** **************
                           TONS / YR      TONS / YR      TONS / YR      TONS / YR      TONS / YR

FUEL COMBUSTION
***************

    EXTERNAL COMBUSTION

        RESIDENTIAL FUEL (AREA)

            ANTHRACITE COAL           14195          36978           4259           3549         127756
            BITUMINOUS COAL           81385         312494          12208          81385         366235
            DISTILLATE OIL            86881         473565         102817          25704          42841
            RESIDUAL OIL               4167          62986          15942           1196             80
            NATURAL GAS               50492           1616         134188          21470          53675
            WOOD                      56690           1134          22676           4535           4535
            TOTAL (RESIDENTIAL)      298110         848766         292091         137840         595122

        ELEC GENERATION (POINT)

            ANTHRACITE COAL           19420          54891          13798            165           3635
            BITUMINOUS COAL         3214761       15552605        3848065          52159        3647883
            LIGNITE                   58973         107023          64311            923           3122
            RESIDUAL OIL              52033        1535833         734505          14921          22288
            DISTILLATE OIL             2113          20715          35151            673            959
            NATURAL GAS               25885          19821        1181628           2218          38328
            PROCESS GAS                 623          14113          33093            185            825
            COKE                        316          36176           3187              5            177
            SOLID WASTE/COAL            751              0            302             63            295
            TOTAL (ELEC GEN)        3374872       17341176        5914039          71312        3717512

        INDUSTRIAL FUEL

            ANTHRACITE COAL
                AREA SOURCES              5             14             10              0              1
                POINT SOURCES          5751           6875           3040             51           1552
            BITUMINOUS COAL
                AREA SOURCES        1529950        1057853         202692          13513          27026
                POINT SOURCES       1213930        2333634         561426          17490          54649
            LIGNITE
                POINT SOURCES         13239           4917           3126            210            421
            RESIDUAL OIL
                AREA SOURCES          29529         279340          77033           3852            257
                POINT SOURCES         67022         816415         198430          10964          12635
            DISTILLATE OIL
```

FIGURE 3.2.1a
Sample Nationwide Emissions Report (NER)

```
          AREA SOURCES            13014        46668        52055       2603       174
          POINT SOURCES           20547        40488        60423       4411      5648
     NATURAL GAS
          AREA SOURCES            24370          812       243698      54155       542
          POINT SOURCES           31314        36241       355963      11166     28224
     PROCESS GAS
          AREA SOURCES                6            0           71         12         8
          POINT SOURCES          168972       123510      2586475      12901     69295
     COKE
          POINT SOURCES            2036        24795         3003         40       406
     WOOD
          AREA SOURCES             1460           29          584        117       117
          POINT SOURCES          207432        17087       134572      30076     43214
     LIQUID PETROL GAS
          POINT SOURCES             325        23348         5029        134       661
     BAGASSE
          POINT SOURCES           41958            0         5490       5499      5499
     OTHER
          POINT SOURCES            7431        15659         3109       2812      7935
     TOTAL (INDUSTRIAL)
          AREA SOURCES          1594334      1386721       576144      74252     20116
          POINT SOURCES         1780458      3443057      3400587      95744    230139

  COMM-INSTITUTIONAL FUEL

     ANTHRACITE COAL
          AREA SOURCES             1516         3945         1486         30       891
          POINT SOURCES            6702         2975          488         50       291
     BITUMINOUS COAL
          AREA SOURCES           154008       234739        28222       6135     22087
          POINT SOURCES           56690        78936        18211       1220      3221
     LIGNITE
          POINT SOURCES            4224         2930         1015         75       204
     RESIDUAL OIL
          AREA SOURCES            68757       694826       174148       8707       588
          POINT SOURCES            7225        80721        18732        885      1149
     DISTILLATE OIL
          AREA SOURCES            70116       259796       280466      14023       935
          POINT SOURCES            1014         5840         4310        204       282
     NATURAL GAS
          AREA SOURCES            21140          669       111474       8918     22295
          POINT SOURCES            6583         2514        33110       2522      9514
     WOOD
          AREA SOURCES               15            0            6          1         1
          POINT SOURCES             538           52          644        144       129
     LIQUID PETROL GAS
          POINT SOURCES              73            1          382         30        77
     OTHER
          POINT SOURCES              15            3            3          0         0
     TOTAL (COMM-INST)
          AREA SOURCES           313443      1193975       595801      37815     46789
          POINT SOURCES           77169       173971        75395       5129     10869

  OTHER (POINT)                       0           34            0          0         0

  TOTAL (EXTERNAL COMB)
     AREA SOURCES               2210037      3469461      1464036     249906    670027
     POINT SOURCES              5232499     20958239      9890022     172185   3958920

  INTERNAL COMBUSTION (POINT)
```

FIGURE 3.2.1a (Continued)

Environmental Protection Agency	SECTION Analysis Packages	Section 3	Chapter 2	Subject 1
National Air Data Branch	CHAPTER Weighted Sensitivity Analysis	Date 6/30/75		Page 5
Volume III AEROS Summary and Retrieval	SUBJECT Program Description			

```
ELECTRIC GENERATION

     DISTILLATE OIL             [illegible]      4431       24114       201        38
     NATURAL GAS                [illegible]      336        14602       159        30
     [illegible]                176              336        4410        699      2963
     [illegible]                [illegible]      299        2053        467        92
     TOTAL (ELECTRIC GEN)       [illegible]      [illegible] 51279      1527      3123

INDUSTRIAL FUEL

     DISTILLATE OIL             447              [illegible] 4436       202       907
     NATURAL GAS                1651             4536       451712      40597     20459
     GASOLINE                   11               [illegible] 251        676       2920
     DIESEL FUEL                [illegible]      167        2302        249       1467
     OTHER                      [illegible]      [illegible] 123        138       332
     TOTAL (INDUSTRIAL FUEL)    [illegible]      10565      465370      41863     33692

COMM-INSTITUTIONAL

     [illegible]                47               47         1328        133       888
     TOTAL (COMMERCIAL)         47               47         1328        133       888

[illegible]

     [illegible]                [illegible]      166        442         446       1132
     TOTAL [illegible]          [illegible]      166        442         446       1132

     TOTAL [illegible]          [illegible]      10645      416440      44169     38755

TOTAL FUEL COMBUSTION

     AREA SOURCES               [illegible]      1649661    1466536     269406    670027
     POINT SOURCES              [illegible]      [illegible] [illegible] 216353   3097275

INDUSTRIAL PROCESS (POINT)
**************************

     CHEMICAL MANUFACTURING     [illegible]      [illegible] 144923     2367014   4007562
     FOOD/AGRICULTURAL          [illegible]      1645       431         31591     1261
     PRIMARY METAL              [illegible]      [illegible] 26170      117761    6107311
     SECONDARY METALS           [illegible]      [illegible] 2718       3883      1505170
     MINERAL PRODUCTS           [illegible]      [illegible] 142280     10728     25167
     PETROLEUM INDUSTRY         [illegible]      1548251    172398      465164    5868669
     WOOD PRODUCTS              [illegible]      107815     2416        25442     857647
     EVAPORATION                [illegible]      [illegible] 448        2406342   2149
     METAL FABRICATION          3926             677        286         1746      78
     LEATHER PRODUCTS           [illegible]      1          0           418       0
     TEXTILE MANUFACTURING      341              18         18          7339      1
     INPROCESS FUEL             [illegible]      48705      23715       10195     31913
     OTHER/NOT CLASSIFIED       [illegible]      9944       512         133918    31126
     TOTAL (INDUSTRIAL)         [illegible]      4613252    716466      6457112   17637981

SOLID WASTE DISPOSAL
********************

     GOVERNMENT (POINT)

          MUNICIPAL INCINERATION     44665       7125       5710        1686.     81867
          OPEN BURNING               26076       1346       4003        40869     116348
          OTHER                      675         43         98          317       1312
          TOTAL (GOVERNMENT)         67411       8514       13812       58878     199587
```

FIGURE 3.2.1a (Continued)

```
RESIDENTIAL (AREA)

    ON SITE INCINERATION            206022        3434        6867      686739     2060218
    OPEN BURNING                    128400        8056       48337      273912      684781
    TOTAL (RESIDENTIAL)             334422       11490       55205      960652     2745000

COMMERCIAL-INSTITUTIONAL

    ON SITE INCINERATION
        AREA SOURCES                 38003        4750        6334       31669       63339
        POINT SOURCES                 1451         861         642        1312        8309
    OPEN BURNING
        AREA SOURCES                 40017        2534       15231       86311      215777
        POINT SOURCES                 1442           0         170         339        4243
    APARTMENT
        POINT SOURCES                   30           1           9          15          24
    OTHER
        POINT SOURCES                   42           0          19           0           0
    TOTAL (COMM-INST)
        AREA SOURCES                 78020        7289       21565      117980      279116
        POINT SOURCES                 2966         861         839        1666       12575

INDUSTRIAL

    ON SITE INCINERATION
        AREA SOURCES                185825       23248       30971      154854      309708
        POINT SOURCES                75364       21870        9432       62913      729714
    OPEN BURNING
        AREA SOURCES                118190        7367       44321      251153      627882
        POINT SOURCES                12870         348        2939       37113       48398
    AUTO BODY INCINERATION
        POINT SOURCES                   55           0           2           8          42
    OTHER
        POINT SOURCES                 2074        4103         229         204         447
    TOTAL (INDUSTRIAL)
        AREA SOURCES                304014       30615       75292      406007      937590
        POINT SOURCES                90363       26321       12602      100239      778602

TOTAL (SOLID WASTE DISP)

    AREA SOURCES                    717556       49394      152062     1484639     3961706
    POINT SOURCES                   160739       35696       27253      159976      990684

TRANSPORTATION (AREA)
*********************

    LAND VEHICLES

        GASOLINE

            LIGHT VEHICLES          357856      214714     5124268    10924202    59276452
            HEAVY VEHICLES           31028       18777     1054282     2155393     8889910
            OFF HIGHWAY              15140        9662      333074     1046535     5734178
            TOTAL (GASOLINE)        404024      243153     6510624    14126130    73900540

        DIESEL

            HEAVY VEHICLES           42106       84212     1193007      119301      701769
            OFF HIGHWAY              14468       38357      525629       52563      319639
            RAIL                     53305      138592      159914      106609      149253
```

FIGURE 3.2.1a (Continued)

TOTAL (DEISEL)	113479	201161	1878550	278473	1178662
AIRCRAFT					
MILITARY	150553	28748	72326	350283	376065
CIVIL	9379	1863	8472	41536	237349
COMMERCIAL	60476	13398	37836	145142	344267
TOTAL (AIRCRAFT)	220408	44009	118634	536961	957681
VESSELS					
BITUMINOUS COAL	1273	3183	191	1273	5729
DIESEL FUEL	14226	36987	42677	28451	39032
RESIDUAL OIL	6985	30371	18223	911	61
GASOLINE	917	573	20171	63378	347262
TOTAL (VESSELS)	23401	71114	81262	94014	392084
GAS HANDLING EVAP LOSS	0	0	0	1608835	0
TOTAL (TRANSPORTATION)	762312	619637	6594071	16035632	76421687
MISCELLANEOUS (AREA) ●●●●●●●●●●●●●●●●●●●●					
SLASH BURNING	220320	0	25943	259435	778305
SOLVENT EVAPORATION LOSS	0	0	0	1587723	0
TOTAL (MISCELLANEOUS)	220320	0	25943	1847158	778305
OTHER (POINT) ●●●●●●●●●●●●●	70	28	1	0	0
GRAND TOTAL ●●●●●●●●●●●					
AREA SOURCES	3910425	4138092	10237113	19617335	81831724
POINT SOURCES	14046645	27623863	11552703	6833441	22625740
TOTAL	17957070	31761955	21789815	26450776	104457464

FIGURE 3.2.1a (Continued)

corresponds to a different aggregated source category, and contains annual emissions, percent allowable error and amount of allowable error for each of the five criteria pollutants, for all component sources forming the aggregated source category. The relationship of the output tables is illustrated in Figure 3.2.1b; this relationship is identical to the tree structure of the NER summary. The numbers in parenthesis in Figure 3.2.1b indicate the table number corresponding to each table title. The table for external fuel combustion, point sources (labeled "Table 11" in Figure 3.2.1b, for example, contains for each pollutant, the output data for all sources of the next lower level (electric generation, industrial fuel, etc.) which are aggregated to form the external combustion, point source category. A sample output for external fuel combustion is shown in Figure 3.2.1c.

Using this technique, Table 3.2.1a summarizes the required value of θ for selected trade-offs between confidence level and accuracy of the emissions inventory. For example, θ must be set at 2.24 percent to attain 95 percent confidence level for the overall inventory error to be within 10 percent.

Table 3.2.1a
Values of (Overall Allowable Error) for
Selected Pairs (α, c)

Confidence Level

α \ c	90%	95%	99%
5%	1.58%	1.12%	0.5%
10%	3.16%	2.24%	1.0%
20%	6.32%	4.47%	2.0%

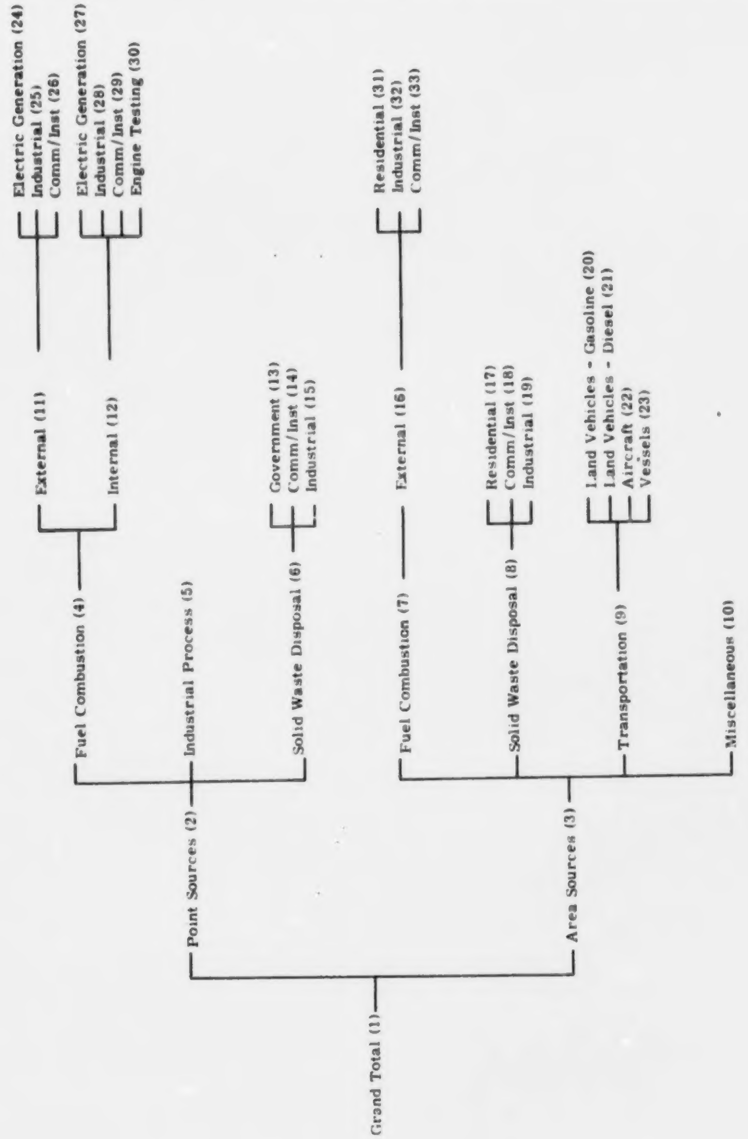

FIGURE 3.2.1b
Output Table Relationships

Note: Numbers in parenthesis refer to WSAP output table numbers. There are 33 tables in the standard WSAP output.

FIGURE 3.2.1c
Sample Output
(External Fuel Combustion, Point Sources)

```
                              WEIGHTED SENSITIVITY ANALYSIS REPORT
                                NATIONAL EMISSIONS DATA SYSTEM
                              **********************************
                                ENVIRONMENTAL PROTECTION AGENCY

   NATIONWIDE EMISSIONS REPORT                                             RUN DATE:  MAY 11, 1973
   ***************************                                        EMISSIONS AS OF:  APRIL 19, 1973
     UNITED STATES

                       SOURCE HIERARCHY                                          DRIVER TABLE 11
                          EXTERNAL COMBUSTION
                                 POINT SOURCES

                                 PARTICULATES

             THETA =        3.68

DATA                                                      ALLOWABLE ERROR
 NO.     SOURCE CLASSES                  TONS / YR       PERCENT        TONS / YR
  34         ELEC GENERATION (POINT)      3416197.          4.48          163007.
  70         INDUSTRIAL FUEL              1562142.          6.62          103466.
  98         COMM-INSTITUTIONAL FUEL        89158.         27.72           24718.
  99         OTHER (POINT)                   2761.        158.12            4334.

                   TOTAL                  5070238.          3.68          186403.

                                     SOX
              THETA =       2.48

DATA                                                      ALLOWABLE ERROR
 NO.     SOURCE CLASSES                  TONS / YR       PERCENT        TONS / YR
  34         ELEC GENERATION (POINT)     15317302.          2.77          423726.
  70         INDUSTRIAL FUEL              3601494.          5.70          205463.
  98         COMM-INSTITUTIONAL FUEL       176071.         25.80           45429.
  99         OTHER (POINT)                  · 211.        745.34            1573.

                   TOTAL                 19095024.          2.48          473101.

                                     NOX

               THETA =      3.27

DATA                                                      ALLOWABLE ERROR
 NO.     SOURCE CLASSES                  TONS / YR       PERCENT        TONS / YR
  34         ELEC GENERATION (POINT)      5365898.          3.99          214028.
  70         INDUSTRIAL FUEL              2449426.          5.90          144605.
  98         COMM-INSTITUTIONAL FUEL       164827.       •  22.76           37511.
  99         OTHER (POINT)                    246.        589.09            1449.

                   TOTAL                  7980397.          3.27          261013.

                                     HC


               THETA =      16.11

DATA                                                      ALLOWABLE ERROR
 NO.     SOURCE CLASSES                  TONS / YR       PERCENT        TONS / YR
  34         ELEC GENERATION (POINT)      121526.          27.58           33515.
  70         INDUSTRIAL FUEL              223016.          20.36           45402.
  98         COMM-INSTITUTIONAL FUEL       11461.          89.80           10292.
  99         OTHER (POINT)                    0.            ---              ---

                   TOTAL                  356005.          16.11           57363.

                                     CO

              THETA =       8.04

DATA                                                      ALLOWABLE ERROR
 NO.     SOURCE CLASSES                  TONS / YR       PERCENT        TONS / YR
  34         ELEC GENERATION (POINT)     6051697.           8.11          491041.
  70         INDUSTRIAL FUEL               88455.          67.11           59366.
  98         COMM-INSTITUTIONAL FUEL       25803.         124.26           32064.
  99         OTHER (POINT)                    0.            ---              ---

                   TOTAL                 6165955.           8.04          495655.
```

3.2.2 ANALYSIS OF THE PROGRAM

3.2.2.1 METHODOLOGY

The structure of the NER format for summarizing emissions, as described previously, is essentially a tree structure consisting of various levels of totals and subtotals. The WSAP program uses a linear statistical model to represent the propagation of error in the annual emission levels of NER source categories. The program computes for each pollutant the percentage of allowable error (σ) in each subtotal component of the NEDS emission inventory, given an overall percentage of allowable error θ in the reported emission totals. The resultant σ's for each subtotal are equal to the θ required to compute σ for the elements which are summed to produce each subtotal. In this way aσ_k is computed for each component source category k of the NEDS inventory in order that the overall percentage of allowable error in the emission totals remain less than θ.

The value for θ is computed as follows. If

α = acceptable error interval (percent) for total emissions

c = confidence level that total emissions are within error interval α ($0<c<1$)

then the percentage of allowable error (θ) for total emissions is given by $\theta = \alpha\sqrt{1 - c}$. This θ is the value which is input to WSAP.

3.2.2.2 SYSTEM INPUTS

The system user must

- Specify a value for θ, the percentage of overall allowable error in total annual emissions for each pollutant
- Identify the geographic region of interest.

Thus five values for θ (one for each criteria pollutant) must be supplied. These values may be computed from requirements for acceptable error interval and confidence level associated with that interval by using the method given in the previous section. The program accesses the appropriate NER emission summary data from the mass storage file of the computer system to produce percentage of allowable error for each component of the emission inventory.

There are a number of optional inputs to WSAP; these include:

- The user may specify the allowable error (σ) at one or more levels in the NEDS hierarchy. The program will compute the allowable errors at the remaining levels in the hierarchy.
- The user may specify aggregating of any source categories. For example, consider the internal fuel combustion category (point sources), Table 11 of Figure 3.2.1b. In this category, Electrical Generation and Industrial Fuel categories may for a given region be the major sources of particulate emissions from internal fuel combustion. The remaining two categories in this class, Commercial and Institutional fuel, and Other, may have negligible emissions. The user may aggregate emissions from the latter sources to form a single category, and the resulting allowable error will be computed by the program.
- The user may also specify an alternate arrangement of the hierarchical structure of the NER reports. For example, the fuel combustion subtrees of Figure 3.2.1b could be restructured by classes of fuels, thus permitting a direct analysis of fuel combustion emissions by type of fuel regardless of the activity for which the fuel was consumed.

3.2.2.3 POTENTIAL APPLICATIONS

WSAP was developed as a tool to determine accuracy requirements for components of an emission inventory. This assists the user in allocating future resources for maintaining accuracy requirements for his emission inventory. Specific applications of WSAP include the following:

- The output from the program can be used to identify the NEDS emission source categories which require the most accurate and complete data in order for NEDS to maintain an overall level of accuracy in total emissions reported. It also calculates the accuracy required of each of the sub-categories and elemental categories in order to meet the desired overall accuracy level. This information may be used for efficient allocation of resources to maintain a given level of accuracy for the emission inventory.

The WSAP program may be used in conjunction with the Source Inventory Emission Factor Analysis (SIEFA) to determine whether the accuracy of a given emission inventory is satisfactory. The SIEFA program evaluates the existing precision and accuracy of an emission inventory by analyzing the component point and area source categories. These outputs may be compared to the accuracy requirements for source categories given by WSAP to determine whether the overall accuracy of the reported emission totals is actually within the required error tolerances.

It can be applied to compute component error requirements for inventories of emissions (or any other kind of data) which exhibit a hierarchical (tree-like) structure, similar to the NER summary. An example of this application is as follows. If weighting factors reflecting of annual emission levels to either ambient air quality, then the NEDS emission data could be weighted by these factors to produce a tree structure of air quality data. When applied to these weighted data, the WSAP program will provide information on the relative effect of various emission source categories on ambient air quality.

3.3.0 REPS

3.3.1 ABSTRACT

The Regional Emission Projection System (REPS) is a computerized air pollution emissions projection model, for use at the AQCR level to project annual emissions. It combines exogenous national and regional economic forecasts with point and area source emission inventories for Air Quality Control Regions (AQCRs) to project air pollution emissions levels for the five criteria pollutants on an annual basis, from the present to the year 2000. The projection methodology involves the following major steps:

- Determine regional growth factors for future years which reflect the expected change (positive or negative) in pollution-producing activity. Growth factors are determined from regional economic and demographic forecasts.
- Project present regional emission inventories to future years using these growth factors. The base year emission inventories are those of the National Emissions Data System (NEDS).
- Adjust the emission projections to include the effects of present and future control regulations. These include existing regulations from NEDS, and promulgated Federal standards (incorporated automatically by REPS) and state or local regulations (supplied by the user).

These three steps in the projection methodology correspond to the three basic elements of the REPS system. The general relationship among these elements and the sources of data used in each element are illustrated schematically in Figure 3.3.1a. As is indicated in the figure, the REPS system provides options for extensive user input to override the key parameters which determine the emission forecasts.

REPS can be used to project emissions for any of the 243 Air Quality Control Regions (AQCRs) and for the nation as a whole.* The

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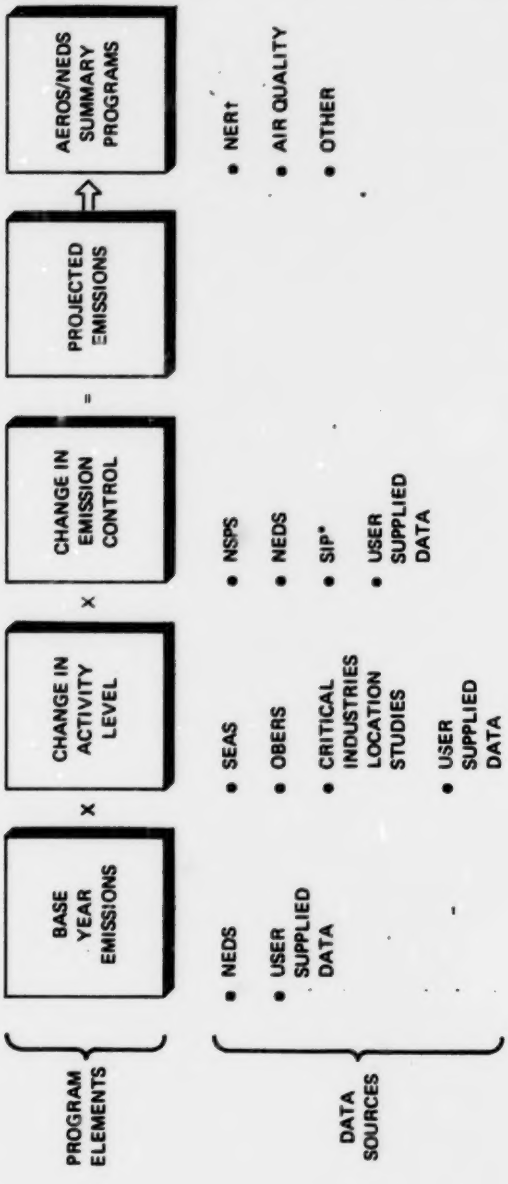
* The four AQCRs which include U.S. territories were not considered because regional economic projections were not available for them.



*WHEN AVAILABLE

†INCLUDED IN REPS PACKAGE; OTHER AEROS OUTPUTS OPTIONAL

FIGURE 3.3.1a
REPS System Flow and Data Sources

base year to which all growth is referenced is selected by the user, and projections can be made for any year between 1974 and the year 2000. One execution of REPS produces emission projections for a single AQCR and a single projection year.

The three basic program elements of the REPS system:

- Calculation of Growth Factors from Economic and Demographic Forecasts
- Projection of Emission from Base Year Inventories
- Application of Emission Controls

are discussed in detail in the following sections. This is followed by a more complete description of the scope and applicability of the REPS system, including discussion of:

- Outputs of the System
- Options for Users to Input Additional Data
- Potential Applications

is also given. These six sections provide a brief, but comprehensive, overview of the REPS system.

3.3.1.1 CALCULATIONS OF GROWTH FACTORS FROM ECONOMIC AND DEMOGRAPHIC FORECASTS

Regional economic and demographic forecasts are used in REPS to determine the expected change in the region's pollution producing activity. The fundamental postulate of this approach is that a change in pollution-producing activity is proportional to a change in purely economic and demographic parameters, such as total gross output, employment or population.

There are two primary sources for the economic and demographic forecast data used in REPS: EPA developed national economic growth projections, and Department of Commerce regional activity projections. National economic growth projections are taken from a standard output of the SEAS system,* and include total gross output for each of 284 economic sectors and subsectors. The SEAS projections are based on a sophisticated model of the national economy in which dynamic modeling of the inputs and outputs of each economic sector with respect to all other sectors is used to project the total gross output of each sector. These econometric projections for each sector are modified in the SEAS system to reflect additional factors which do not influence economic projections for specific industrial sectors, but which do have a substantial effect on emissions. These factors include future process changes and materials substitution, and disaggregation of selected sectors to account for industrial processes within one sector which may grow at different rates.

For each region, the relative share of the SEAS national output forecasts is established using the OBERS economic projections† for AQCRs, which contain regional forecasts of population and employment, in addition to projections of regional earnings for 28 industrial sectors. The OBERS projections are reviewed and updated regularly by the Department of Commerce. The methodology used in preparing the OBERS projections involves two basic steps. First, the economic growth of each sector was projected at the national level. Then these national totals were distributed regionally in accordance with historic and projected trends in the regional distributions of economic activity, tempered by available industry- and region-specific growth information.

The SEAS and OBERS projections have been supplemented in REPS by a special analysis of growth and relocation trends for five industries which are among the heaviest industrial polluters. These critical industries include electric power generation, steel, chemicals, pulp manufacturing and petroleum refining. The output of this analysis is a file of data on new plants expected to become operational in the future. For each plant, the SCC ‡ Code, the AQCR, the projected startup year and the plant capacity are given. These data may be input to the program at the user's option.

---

* Strategic Environmental Assessment System, an econometric and emission forecasting model developed by the Office of Research and Development, Environmental Protection Agency, Washington, D.C.

† Regional Economic Activity in the U.S., 1972 OBERS Projections, developed by the U.S. Departments of Commerce and Agriculture for the U.S. Water Resources Council.

‡ Source Classification Codes defined in NEDS.

To incorporate the economic and demographic forecast data into the REPS program, dimensionless growth factors, reflecting the change in economic and demographic parameters for the projection year relative to the base year, are computed. By determining the relationship between SCC processes and the SEAS and OBERS industrial sectors, regional growth factors for each specific SCC process are calculated in REPS.

3.3.1.2 PROJECTION OF EMISSIONS FROM BASE YEAR INVENTORIES

Regional emissions in the base year, to which the growth factors described above are applied, are taken from the point and area source inventories of the EPA's National Emission Data System (NEDS). The REPS model uses the following elements of the data contained in the NEDS point source inventory for each source:

- SCC process code
- Net annual emissions
- Control efficiency
- Emissions permitted by existing regulations and compliance to those regulations.

REPS also uses the data in the area source inventory which define the levels of area source emission-producing activity in the base year. This activity includes transportation, fuel combustion, evaporation and miscellaneous area sources. Appropriate growth factors are applied to the data in order to calculate emissions in the projection year. The REPS system has the advantage of building emissions projections on known activity and source data from NEDS. (Clearly, the accuracy of the projected emissions will depend on the accuracy of NEDS in the base year, as well as on the accuracy of the SEAS and OBERS projections.) New activities and industrial sources entering the region and not now accounted for in NEDS will appear in the projections only if entered into REPS via user options.

An alternative to the above approach, which was considered but not adopted in developing REPS, would be to determine projected regional economic activity, and then to translate the projected activity (given in terms of either dollars or physical units) directly to projected emissions without using a base year emission inventory. Since regional economic projections usually provide no more than two or three digit SIC industrial detail (e.g., steel manufacturing), all industrial sectors would have to be disaggregated to the SCC process level (e.g., open hearth, BOF, etc.) to reflect the actual process mix of the region. This is necessary, of course, because of the wide variation in emission characteristics for different processes. Even if the projected regional process mix were determined, national average emission factors would have to be used to convert the regional economic process activity to projected emissions.

The REPS approach, on the other hand, uses the actual process mix in the base year, as given in the NEDS inventory, to define the process mix upon which the projections are based, rather than relying on disaggregating industrial sector data. In addition, the base year emission data entered in NEDS are provided by the polluting facilities and are often based on stack tests or local emission factors. To translate economic data to emissions with comparable accuracy would require knowledge of these local or plant-specific emission factors.

3.3.1.3 APPLICATION OF EMISSION CONTROLS

The final step of the REPS emission projection methodology is to adjust the projected emissions to include the effect of emission controls required for each type of source in the projection year. This is a very important consideration because control regulations may require a reduction in emissions that more than offsets the projected increase in activity. Thus net emissions may decrease over time in spite of expected increases in industrial activity.

The REPS system includes the effect of control regulations in two ways. First, if any point source has been granted a control variance which will have expired by the projection year, projected emissions are reduced to the level allowable under those regulations. Data on current controls are taken from the NEDS point source inventory. Second, Federal New Source Performance Standards which govern new and retrofit industrial equipment, are included in the REPS system. Standards already promulgated in the Federal Register are included, as well as proposed standards which are likely to be promulgated in the future may be input at the user's option. The proposed standards were supplied by the Emission Standards and Engineering Division of the EPA's Office of Air Quality Planning and Standards. The effect of New Source Performance Standards on future emission is determined in the REPS system by estimating the portion of projected activity which will involve equipment or facilities governed by these standards.

The emission control data noted above may be supplemented by accessing the State Implementation Plan file which is expected to be an operational element of the Aerometric and Emissions Reporting System (AEROS) in the near future. The REPS program is designed to accept these data as soon as they are available. This file will contain emission control regulations to be implemented as part of state programs to maintain acceptable ambient air quality. Additional emission controls required by state or local regulations may be supplied by the user. This point is discussed later in the system overview.

3.3.2 OUTPUTS OF THE SYSTEM

The output of the REPS system is in two forms. One is the projected point and area source emission inventory given in the standard format of the NEDS system. All of the NEDS summary reporting programs may, therefore, be executed against the projected inventory. One of these reporting programs is the NE11 program, which aggregates all emissions into the National Emission Report (NER) format. Also, air quality models which convert annual emission levels, as given in the emission inventory, directly to ambient air quality, may be used.

The other principal output of the REPS system is a printed summary of projection statistics and error messages which occurred during execution of the program. This printout is valuable both for interpreting the projection results, and interpreting any computer problems which may have occurred. This summary contains:

- Listing of user-supplied override data
- Assumptions and defaults exercised
- Base year and projected fuel mix
- Automobile emission factors for the projection year
- Other related projection data developed by the program.

Any errors encountered during program execution are also included in the output. Standard error messages include:

- Coding errors for user-supplied data

- Any inability of the program to locate reference data from mass storage files.

Diagnostic messages explaining the path followed during program execution to overcome these errors are included in the printout. A summary printout of the REPS system for a typical projection scenario is given in Figure 3.3.2a.

```
PROJECTION DATA OF AQCR  70 FOR PROJECTION YEAR OF 1980 FOR BASE YEAR OF 1974



                             MISCELLENOUS C•O•T•R•S GROWTH DATA

YEAR        POPULATION   C/I EMPLOYMENT   MIL-EMPLOYMENT   INDUSTRIAL GROWTH
              (GPOP)        (GEMPL)          (GEMPM)            (GGPO)

             .2004+07       .0241+03         .3405+01          .3827+07        1974 YEAR VALUE
   2          1.012          1.023            .977             1.043           PROJECTED GROWTH MULTIPLIER
   3          1.025          1.056            .946             1.088           PROJECTED GROWTH MULTIPLIER
   4          1.038          1.080            .913             1.134           PROJECTED GROWTH MULTIPLIER
   5          1.051          1.118            .893             1.180           PROJECTED GROWTH MULTIPLIER
   6          1.064          1.140            .867             1.225           PROJECTED GROWTH MULTIPLIER
   7          1.077          1.164            .841             1.271           PROJECTED GROWTH MULTIPLIER
   8          1.091          1.183            .829             1.314           PROJECTED GROWTH MULTIPLIER
   9          1.105          1.205            .814             1.357           PROJECTED GROWTH MULTIPLIER
  10          1.119          1.228            .800             1.401           PROJECTED GROWTH MULTIPLIER
  11          1.133          1.245            .795             1.444           PROJECTED GROWTH MULTIPLIER
  12          1.147          1.250            .771             1.487           PROJECTED GROWTH MULTIPLIER
  13          1.162          1.281            .756             1.538           PROJECTED GROWTH MULTIPLIER
  14          1.177          1.300            .741             1.589           PROJECTED GROWTH MULTIPLIER
  15          1.192          1.318            .723             1.640           PROJECTED GROWTH MULTIPLIER
  16          1.207          1.333            .710             1.691           PROJECTED GROWTH MULTIPLIER
  17          1.222          1.339            .694             1.742           PROJECTED GROWTH MULTIPLIER
  18          1.236          1.358            .690             1.808           PROJECTED GROWTH MULTIPLIER
  19          1.252          1.374            .673             1.874           PROJECTED GROWTH MULTIPLIER
  20          1.263          1.385            .662             1.941           PROJECTED GROWTH MULTIPLIER
  21          1.280          1.390            .650             2.007           PROJECTED GROWTH MULTIPLIER
  22          1.294          1.337            .639             2.073           PROJECTED GROWTH MULTIPLIER
  23          1.309          1.403            .627             2.153           PROJECTED GROWTH MULTIPLIER
  24          1.324          1.417            .615             2.232           PROJECTED GROWTH MULTIPLIER
  25          1.340          1.420            .602             2.312           PROJECTED GROWTH MULTIPLIER
  26          1.355          1.416            .590             2.391           PROJECTED GROWTH MULTIPLIER
  27          1.370          1.412            .577             2.471           PROJECTED GROWTH MULTIPLIER
```

FIGURE 3.3.2a
Sample REPS Output

```
                                   ** USER OVERRIDE OPTIONS EXERCISED **

                                     (IF ********, DEFAULT VALUE USED)

                                           VARIABLES REFERENCE

   GPOP    - OBERS GROWTH IN POPULATION                              GEMPL  - OBERS GROWTH IN CIVILIAN EMPLOYMENT
   GEMPM   - OBERS GROWTH IN MILITARY EMPLOYMENT                     GCPC   - OBERS GROWTH IN INDUSTRIAL ACTIVITY
   RFPR    - RESIDENTIAL AREA FUELS ARRAY                            RFPC   - COMM-INSTITUTIONAL AREA FUELS ARRAY
   RFPI    - INDUSTRIAL AREA FUELS ARRAY                             CR     - SOLID WASTE (RESIDENTIAL) ARRAY
   CC      - SOLID WASTE (COMM-INSTIT) ARRAY                         CI     - SOLID WASTE (INDUSTRIAL) ARRAY
   GBTU    - GROWTH IN BTU DEMAND                                    ERATIO - ELECTRICAL ENERGY RATIO (BTU)
   GFV     - GROWTH IN VESSEL FUELS                                  UPF    - POINT SOURCES FUEL RATIOS ARRAY
   GVMT    - GROWTH IN VEHICLE MILES TRAVELED ARRAY                 GFU    - GROWTH IN VEHICLE FUEL USAGE ARRAY
   RFU     - VEHICLE FUEL RATIOS ARRAY                               GFA    - GROWTH IN AIRCRAFT LTOS


    PRINT OPTION FOR DETAIL LISTING IS ON


GPOP      1.081    GEMPL   ********    GEMPM   ********    CGPO    ********    ERATIO  ********    GBTU    ********    FOR 1977

GPOP      1.078    GEMPL   ********    GEMPM   ********    CGPO    ********    ERATIO  ********    GBTU    ********    FOR 1980


                                         ** END OF USER OPTIONS **


                                    FUEL MIX CALCULATION - OUTPUT SECTION

                          ALL EMISSIONS ARE 0 FOR SCC 10200001
                          ALL EMISSIONS ARE 0 FOR SCC 10200701
                          ALL EMISSIONS ARE 0 FOR SCC 10200704
                          ALL EMISSIONS ARE 0 FOR SCC 10200707
                          ALL EMISSIONS ARE 0 FOR SCC 10200707
                          UNABLE TO LOCATE BTU FOR SCC 10299998
                          ALL EMISSIONS ARE 0 FOR SCC 10300002
                          ALL EMISSIONS ARE 0 FOR SCC 10300003
                          ALL EMISSIONS ARE 0 FOR SCC 20100101
                          ALL EMISSIONS ARE 0 FOR SCC 20100101
                          ALL EMISSIONS ARE 0 FOR SCC 20100101
                          ALL EMISSIONS ARE 0 FOR SCC 20100201
                          ALL EMISSIONS ARE 0 FOR SCC 20100201
                          ALL EMISSIONS ARE 0 FOR SCC 20100201
                          UNABLE TO LOCATE BTU FOR SCC 20299997

                                         END OF NEDS FILE REACHED
```

FIGURE 3.3.2a (Continued)

```
                        FUEL MIX RATIOS FOR  (BTU EQUIVALENTS) FOR NEDS COMBUSTION CATEGORIES

                 X-ELEC        X-INDU        X-C/I         I-ELEC        I-INDU        I-C/I         I-ENEN

ANTHRA/TOTAL     .001          .000          .000          .000          .000          .000          .000
BITUMI/TOTAL     .715          .270          .127          .000          .000          .000          .000
LIGNIT/TOTAL     .000          .000          .000          .000          .000          .000          .000
DISTIL/TOTAL     .100          .320          .097          .000          .000          .000          .000
RESIDU/TOTAL     .083          .035          .013          .590          .000          .000          .000
NATGAS/TOTAL     .090          .373          .760          .408         1.000          .000          .000
PROGAS/TOTAL     .000          .000          .000          .000          .000          .000          .000
COKE  /TOTAL     .000          .000          .000          .000          .000          .000          .000
WOOD  /TOTAL     .000          .000          .000          .000          .000          .000          .000
LP GAS/TOTAL     .000          .000          .000          .000          .000          .000          .000
BAGASS/TOTAL     .000          .000          .000          .000          .000          .000          .000
SWCOAL/TOTAL     .000          .000          .000          .000          .000          .000          .000
DIESEL/TOTAL     .000          .000          .000          .002          .000          .000          .000
GASOLN/TOTAL     .000          .000          .000          .000          .000          .000          .000
ACFUEL/TOTAL     .000          .000          .000          .000          .000          .000          .000

 TOTALBTU        .209+0[illegible]     .301+0[illegible]     .225+07       .141+07       .734+05       .000          .000


                     GROWTH MULTIPLIERS FOR COMBUSTION CATEGORIES

      YEAR   X-ELEC    X-INDU    X-C/I     I-ELEC    I-INDU    I-C/I     I-ENEN

        1    1.000     1.000     1.000     1.000     1.000      .000      .000
        2     .999      .997      .995      .996      .997      .000      .000
        3     .997      .987      .993      .995      .987      .000      .000
        4     .992      .977      .990      .992      .977      .000      .000
        5     .990      .964      .993      .990      .964      .000      .000
        6     .983      .956      .994      .986      .956      .000      .000
        7     .98[illegible]      .949      .994      .986      .949      .000      .000
        8     .981      .938      .992      .981      .938      .000      .000
        9     .975      .927      .991      .976      .927      .000      .000
       10     .972      .918      .989      .972      .918      .000      .000
       11     .969      .909      .988      .963      .909      .000      .000
       12     .964      .901      .987      .964      .901      .000      .000
       13     .959      .891      .985      .959      .891      .000      .000
       14     .955      .881      .984      .955      .881      .000      .000
       15     .950      .872      .983      .950      .872      .000      .000
       16     .946      .863      .982      .946      .863      .000      .000
       17     .943      .855      .981      .943      .855      .000      .000
       18     .939      .846      .979      .938      .846      .000      .000
       19     .934      .838      .977      .934      .839      .000      .000
       20     .930      .830      .975      .930      .830      .000      .000
       21     .926      .823      .974      .926      .823      .000      .000
       22     .922      .816      .972      .922      .816      .000      .000
       23     .918      .807      .971      .918      .807      .000      .000
       24     .914      .799      .969      .914      .799      .000      .000
       25     .910      .792      .963      .910      .792      .000      .000
       26     .906      .785      .966      .906      .785      .000      .000
       27     .902      .778      .967      .902      .778      .000      .000
```

FIGURE 3. 3. 2a (Continued)

```
                        FUEL MIX RATIOS FOR  (BTU EQUIVALENTS) FOR NEDS SOLID WASTE CATEGORIES

                SW-GOV              SW-C/I             SW-IND

MUNC I/TOTAL   1.000               1.000              1.000
OPEN B/TOTAL    .000                .000               .000
APT IN/TOTAL    .000                .000               .000
PR BUR/TOTAL    .000                .000               .000
INCINE/TOTAL    .000                .000               .000
AUTC B/TOTAL    .000                .000               .000

 TOTALBTU        .146+06             .530+03            .117+06



                  GROWTH MULTIPLIERS FOR SOLID WASTE CATEGORIES

                    YEAR      SW-GOV     SW-C/I     SW-IND

                      1       1.000      1.000      1.000
                      2       1.013      1.018      1.013
                      3       1.045      1.045      1.045
                      4       1.061      1.061      1.061
                      5       1.073      1.079      1.079
                      6       1.107      1.107      1.107
                      7       1.134      1.134      1.134
                      8       1.143      1.148      1.149
                      9       1.171      1.171      1.171
                     10       1.195      1.196      1.196
                     11       1.220      1.220      1.220
                     12       1.244      1.244      1.244
                     13       1.243      1.248      1.240
                     14       1.530      1.530      1.530
                     15       1.803      1.808      1.803
                     16       2.035      2.085      2.085
                     17       2.362      2.362      2.362
                     18       2.632      2.632      2.632
                     19       2.902      2.902      2.902
                     20       3.175      3.176      3.170
                     21       3.435      3.435      3.435
                     22       3.697      3.697      3.697
                     23       3.953      3.958      3.958
                     24       4.215      4.216      4.219
                     25       4.471      4.471      4.471
                     26       4.724      4.724      4.724
                     27       4.975      4.975      4.975
```

FIGURE 3.3.2a (Continued)

```
                         LISTING OF PROJECTED POINT RECORDS (.00. TONS)
   SCC        PART      SOX       NOX       HC        CO    GROWTH        PROCESSING MESSAGES (PRIOR TO RECORD)

                                                                 UNABLE TO LOCATE MAPS SCC FOR 10100102 USING 10100199
                                                                 COMP-STATUS SCC 10100101 ALTERED TO MATCHED NEDS 10100102
                                                                 COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR( 2)
                                                                   CONTROL % (EXISTING)  -1.00  -1.00  -1.00  -1.00  -1.00
                                                                   CONTROL % (NEW)        98.00  90.00  -1.00  -1.00  -1.00
10100102    137225   1007101    57111     1050     55400   .9600  KEY =  262280   1 1
                                                                 UNABLE TO LOCATE MAPS SCC FOR 10100201 USING 10100299
                                                                 COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR( 2)
                                                                   CONTROL % (EXISTING)  -1.00  -1.00  -1.00  -1.00  -1.00
                                                                   CONTROL % (NEW)        98.00  90.00  -1.00  -1.00  -1.00
10100201    333382  92637734  1234013      130       300   .9330  KEY =  261680   3 2
                                                                 UNABLE TO LOCATE MAPS SCC FOR 10100201 USING 10100299
                                                                 COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR( 2)
                                                                   CONTROL % (EXISTING)  -1.00  -1.00  -1.00  -1.00  -1.00
                                                                   CONTROL % (NEW) .      98.00  90.00  -1.00  -1.00  -1.00
10100201    439244  53520000  1075406      200       300   .9370  KEY =  201680   3 3
                                                                 UNABLE TO LOCATE MAPS SCC FOR 10100201 USING 10100299
                                                                 COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR( 2)
                                                                   CONTROL % (EXISTING)  -1.00  -1.00  -1.00  -1.00  -1.00
                                                                   CONTROL % (NEW)        98.00  90.00  -1.00  -1.00  -1.00
10100201      1343     22227    13312      133       444   .9330  KEY =  264290  38 1
                                                                 UNABLE TO LOCATE MAPS SCC FOR 10100201 USING 10100299
                                                                . COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR( 2)
                                                                   CONTROL %     ING)  -1     .00  -1     .00  -1

                                                                   CONTROL %             98     -1.00  -1     -1.00  -1
50300101      3000      1242     1430     1430      4300  1.1339  KEY =  146900 421 2
                 -         0        0        0         -
                                                                 UNABLE TO LOCATE MAPS SCC FOR 50300101 USING 50300199
                                                                 COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR( 1)
                                                                   CONTROL % (EXISTING)  -1.00  -1.00  -1.00  -1.00  -1.00
                                                                   CONTROL % (NEW)        98.00  -1.00  -1.00  -1.00  -1.00
50300101      6333     27300    73024    30024    111740  1.1339  KEY =  146900  2515
               195         0        0        0         -
                                                                 UNABLE TO LOCATE MAPS SCC FOR 50300102 USING 50300199
                                                                 COMP-STATUS SCC 50300101 ALTERED TO MATCHED NEDS 50300102
                                                                 COMPLIANCE STATUS DATA (USER SUPPLIED) FOR YEAR( 1)
                                                                   CONTROL % (EXISTING)  -1.00  -1.00  -1.00  -1.00  -1.00
                                                                   CONTROL % (NEW)        98.00  -1.00  -1.00  -1.00  -1.00
50300102      2100       414      331     1483      7311  1.1339  KEY =  144680  30 5
                 0         0        0        0         0

                         END OF POINT RECORDS - NEDS
```

FIGURE 3. 3. 2a (Continued)

```
                                  PRELIMINARY TRANSPORATION DATA

                                      COMPUTED EMISSION FACTORS (GRAMS/MILE)
                        CO            HC            NOX            PART           SOX

LT DUTY GAS         .220+02       .234+01       .303+01        .463+00        .404-01
HV DUTY GAS         .107+03       .102+02       .124+02        .350+01        .260+00


                                                                   PROJECTED AREA DATA

              ACTIVITY               ABBREV       UNITS

ANTHRACITE COAL                      ANTH        10**3 TONS
BITUMINOUS COAL                      BITU        10**3 TONS
DISTILLATE OIL                       DIST        10**4 GALS
RESIDUAL OIL                         RESID       10**4 GALS
NATURAL GAS                          N/G         10**7 CU FT
WOOD                                 WOOD        10**3 TONS
PROCESS GAS                          P/GAS       10**7 CU FT
COKE                                 COKE        10**3 TONS
ON SITE INCINERATION                 INCIN       10**3 TONS
OPEN BURNING                         BURN        10**3 TONS
EVAPORATION - SOLVENT PURCHASED      SOLV        TONS PER YR
EVAPORATION-A GASOLINE MARKETED      GAS         10**3 GALS
GASOLINE - LIGHT DUTY VEHICLE        G/LDT       10**3 GALS
GASOLINE - HEAVY DUTY VEHICLE        G/HVY       10**3 GALS
GASOLINE - OFF HIWAY  VEHICLE        G/OFH       10**3 GALS
DIESEL - HEAVY DUTY VEHICLE          D/HVY       10**3 GALS
DIESEL - OFF HIWAY VEHICLE           D/OFH       10**4 GALS
DIESEL - RAIL LOCOMOTIVE             RAIL        10**4 GALS
AIRCRAFT - MILITARY                  MILT        10**2  LTO
AIRCRAFT - CIVIL                     CIV         10**2  LTO
AIRCRAFT - COMMERCIAL                COMM        10**2  LTO
VEHICLE MILES - LIMITED ACCESS       L/ACC       10**6 MILE
VEHICLE MILES - RURAL ROADS          RURAL       10**6 MILE
VEHICLE MILES - SUBURBAN ROADS       SUBUR       10**6 MILE
VEHICLE MILES - URBAN ROADS          URBAN       10**6 MILE


                         PROJECTED AREA DATA FOR STATE 19, COUNTY 370

RES FU .   ANTH =      1  BITU =    230  DIST =    442  RESID=      0  N/G  =     74  WOOD =      2
C/I FU .   ANTH =      3  BITU =      0  DIST =     33  RESID=     25  N/G  =     29  WOOD =      0
IND FU .   ANTH =      0  BITU =     42  COKE =      0  DIST =      1  RESID=      0  N/G  =      6  WOOD =      0  P/GAS=      0
RS INC .   INCIN=    233  BURN =     51
IND IN .   INCIN=     41  BURN =      3
C/I IN .   INCIN=     14  BURN =      3
SOLVEN .   SOLV =     40
GAS EV .   GAS  =    154
VEH FU .   G/LDT=  11078  G/HVY=    563  G/OFH=    682  D/HVY=    500  D/OFH=      5  RAIL =      7
AIRCRA .   MILT =      0  CIV  =      0  COMM =      0
```

FIGURE 3.3.2a (Continued)

```
VESSEL •   ANTH =        0  DIST =        0  RESID=        0  GAS  =        0
VMT    •   L/ACC=     3294  RURAL=     7071  SUBUR=     3125  URBAN=     3290

                    PROJECTED AREA DATA FOR STATE 14, COUNTY 1440

RES FU •   ANTH =        0  BITU =      430  DIST =      133  RESID=        0  N/G  =       75  WOOD =        2
C/I FU •   ANTH =        0  BITU =        0  DIST =       52  RESID=       37  N/G  =       52  WOOD =        0

AIRCRA •   MILT =        0  CIV  =        0  COMM =        0
VESSEL •   ANTH =        0  DIST =      300  RESID=        0  GAS  =     1070
VMT    •   L/ACC=        0  RURAL=        0  SUBUR=        0  URBAN=        0

                    PROJECTED AREA DATA FOR STATE 22, COUNTY 4230

RES FU •   ANTH =        0  BITU =       24  DIST =     1154  RESID=        0  N/G  =     2477  WOOD =        0
C/I FU •   ANTH =        0  BITU =   11340  DIST =     3437  RESID=        0  N/G  =     2551  WOOD =        0
IND FU •   ANTH =        0  BITU = [illegible]  COKE =        0  DIST =     3000  RESID=     1271  N/G  =     1900  WOOD =        0  F/GAS=        0
PS INC •   INCIN=       32  BURN =        0
IND IN •   INCIN=      235  BURN =        0
C/I IN •   INCIN=      373  BURN =        0
SOLVEN •   SOLV =     7533
GAS EV •   GAS  =     3331
VEH FU •   G/LCT= [illegible]  G/HVY=   27300  G/OFH=     1400  D/HWY=     3100  D/OFH=      787  RAIL =     1050
AIRCRA •   MILT =        0  CIV  =        0  COMM =        0
VESSEL •   ANTH =        0  DIST =        2  RESID=        1  GAS  =       10
VMT    •   L/ACC= 100334  RURAL=        0  SUBUR=        0  URBAN= 113834

                                        END OF AREA RECORDS - NEDS

                    SUMMARY COUNTS FOR NEDS RECORDS

                 EXTCMS INTCMS INDPPC  EVAPT SLOWLT MISCPT AREASC  TRANS  ERROR
SUBROUTINE CNT =    330     13    333    241     42      0     12     12    733

 TOTAL RECORDS
         1313
```

FIGURE 3. 3. 2a (Continued)

```
                BASE AND PROJECTED POINT SOURCE EMISSION SUMMARY
                              (EMISSIONS IN  TONS)

SCC GROUP    YEAR                       PART        SOX         NOX         HC          CO          NUMBER

101.     BASE YEAR EMISSIONS         43373.3   1025949.4    240307.3     1830.4      6470.5       108.0
         PROJECTION YEAR             10806.1    611503.3    236702.3     1805.0      6379.9
           % CHANGE                    -75.1       -40.4        -1.5       -1.4        -1.4

102.     BASE YEAR EMISSIONS         16330.1     57744.4     14941.0      489.7       973.3       210.0
         PROJECTION YEAR              6875.7     51133.3     14184.1      454.9       923.7
           % CHANGE                    -57.9       -11.4        -5.1       -7.1        -5.1

103.     BASE YEAR EMISSIONS          1373.0      2238.7       342.3       57.1       117.3        72.0
         PROJECTION YEAR               836.0      2556.7       381.3       66.4       136.5
           % CHANGE                    -40.0        13.3        11.4       16.4        16.4

201.     BASE YEAR EMISSIONS             7.3        13.3       636.0      236.4        75.3       197.0
         PROJECTION YEAR                 7.3        13.1       627.0      232.2        63.3
           % CHANGE                     -1.4        -1.4        -1.4       -1.4        -1.4

202.     BASE YEAR EMISSIONS              .0          .0        28.0         .0          .0         2.0
         PROJECTION YEAR                  .0          .0        27.4         .0          .0
           % CHANGE                       .0          .0        -2.1         .0          .0

301.     BASE YEAR EMISSIONS           818.0      6882.0      1342.0     2747.0      2840.0        44.0
         PROJECTION YEAR               704.0      2043.0      1333.3     2626.2      2715.0
           % CHANGE                    -13.9       -70.3         -.6       -4.4        -4.4

302.     BASE YEAR EMISSIONS          1433.0          .0          .0         .0          .0        35.0
         PROJECTION YEAR              1086.5          .0          .0         .0          .0
           % CHANGE                    -24.2          .0          .0         .0          .0

303.     BASE YEAR EMISSIONS        229367.0     68772.0        73.1     1576.1   2644303.7        46.0
         PROJECTION YEAR            231431.1     69595.0        74.2     1601.3   2684170.3
           % CHANGE                      1.0         1.0         1.5        1.5         1.5

304.     BASE YEAR EMISSIONS           776.3      2113.3        39.4       10.5      1482.0        73.0
         PROJECTION YEAR               749.1      2140.5        40.0       10.7      1504.3
           % CHANGE                     -3.5         1.3         1.5        1.5         1.5

305.     BASE YEAR EMISSIONS         34222.6     14050.0      2689.4      537.0         2.0       175.0
         PROJECTION YEAR             15727.1     13333.0      2552.1      509.6         1.9
           % CHANGE                    -54.0        -5.1        -5.1       -5.1        -5.2

306.     BASE YEAR EMISSIONS          5875.0     78025.4     11950.6    12560.9    141198.3       173.0
         PROJECTION YEAR              1161.0     62205.0     11090.2    11656.5    131032.6
           % CHANGE                    -80.2       -20.3        -7.2       -7.2        -7.2

307.     BASE YEAR EMISSIONS             7.0          .0          .0      518.0          .0         8.0
         PROJECTION YEAR                 7.3          .0          .0      538.2          .0
           % CHANGE                      3.9          .0          .0        3.9          .0

308.     BASE YEAR EMISSIONS            26.0          .0          .0         .0          .0         2.0
         PROJECTION YEAR                27.1          .0          .0         .0          .0
           % CHANGE                      4.2          .0          .0         .0          .0
```

FIGURE 3. 3. 2a (Continued)

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```
390.   BASE YEAR EMISSIONS      127.3     1723.7     131.7      23.7      24.7     80.0
       PROJECTION YEAR          115.4     1574.0     127.4      22.8      23.6
         % CHANGE                -9.4       -8.7      -3.3      -3.8      -4.1

399.   BASE YEAR EMISSIONS       15.0         .0        .0        .0        .0      3.0
       PROJECTION YEAR           15.0         .0        .0        .0        .0
         % CHANGE                  .0         .0        .0        .0        .0

401.   BASE YEAR EMISSIONS         .0         .0        .0     172.0        .0      8.0
       PROJECTION YEAR             .0         .0        .0     171.5        .0
         % CHANGE                  .0         .0        .0       -.3        .0

402.   BASE YEAR EMISSIONS        2.0         .0      55.0   17271.1        .0     93.0
       PROJECTION YEAR            2.0         .0      55.0   17441.5        .0
         % CHANGE                -2.2         .0        .0       1.0        .0

403.   BASE YEAR EMISSIONS         .0         .0        .0   37115.7        .0    104.0
       PROJECTION YEAR             .0         .0        .0   38353.4        .0
         % CHANGE                  .0         .0        .0       3.3        .0

405.   BASE YEAR EMISSIONS         .0         .0        .0     621.0        .0      2.0
       PROJECTION YEAR             .0         .0        .0     913.6        .0
         % CHANGE                  .0         .0        .0      47.1        .0

490.   BASE YEAR EMISSIONS         .0         .0        .0    3221.3        .0     28.0
       PROJECTION YEAR             .0         .0        .0    3946.1        .0
         % CHANGE                  .0         .0        .0      22.5        .0

499.   BASE YEAR EMISSIONS         .0         .0        .0    2559.3        .0      6.0
       PROJECTION YEAR             .0         .0        .0    2559.3        .0
         % CHANGE                  .0         .0        .0        .0        .0

501.   BASE YEAR EMISSIONS      514.0      365.1     292.1     219.2    5111.3      5.0
       PROJECTION YEAR          514.0      365.1     292.1     219.2    5111.9
         % CHANGE                  .0         .0        .0        .0        .0

502.   BASE YEAR EMISSIONS        5.7        1.1       1.5       4.7       8.0      2.0
       PROJECTION YEAR            5.7        1.3       1.7       5.4       9.1
         % CHANGE                  .0       13.4      13.4      13.4      13.4

503.   BASE YEAR EMISSIONS       20.9       29.2      34.9      36.8     118.4      5.0
       PROJECTION YEAR           21.1       33.1      39.6      41.8     134.2
         % CHANGE                 1.1       13.4      13.4      13.4      13.4
```

FIGURE 3. 3. 2a (Continued)

```
                       AREA SUMMARY
               PERCENT CHANGE IN ACTIVITY

                 RES FU          7.036%
                 C/I FU         16.398%
                 IND FU         27.098%
                 RS INC          7.665%
                 IND IN         27.214%
                 C/I IN         19.254%
                 SOLVEN          7.697%
                 GAS EV          7.705%
                 VEH FU          7.902%
                 AIRCRA          6.580%
                 VESSEL         10.316%
                 VMT             7.633%

               PROJECTED VEHICLE EMISSIONS (10**3 TONS)

                          CO          HC          NOX          PART          SOX

  LIGHT DUTY GASOLINE   245.271     28.713      45.402        5.383         .532
  HEAVY DUTY GASOLINE   129.401      9.176      12.549         .734         .243

BASE YEAR REGIONAL POPULATION (000)
    OBERS POPULATION =    2004.
     NEDS POPULATION =    7403.
```

FIGURE 3.3.2a (Continued)

3.3.3 OPTIONS FOR USERS TO INPUT ADDITIONAL DATA

The REPS system is complete and autonomous to the extent that the program automatically accesses all the input data described previously to project a complete emission inventory. However, there is provision in the system for extensive user input and override capability. Override data supercedes or replaces those parameters calculated automatically by the system which are used to forecast changes in pollution-producing activity levels. The general categories of data which may be overriden include:

- All economic and demographic growth factors (SCC-specific)
- Projected fuel use and fuel mix
- Projected transportation activity.

In addition the user may enter new data into the system which supplements rather than overrides existing data. The user may specify local emission control regulations which are more stringent than Federal standards. The user may also input emissions inventory data for new point sources expected to be operational in the future but which are not already included in either the base year inventory or in the data on new facilities for the five critical industries read by the program at the option of the user.

3.3.4 POTENTIAL APPLICATIONS

The REPS system is a tool which may be used to support any program which involves estimating future emission levels. The primary goal of the REPS system design and development effort was to achieve maximum flexibility, as exemplified by the comprehensive capability of the system to accept user supplied data.

In particular the system may be used for the following applications:

- Projected emissions, aggregated by emission source category, may be used to identify the future major pollution source categories in a region
- The projected percent change in emissions from the base year may be determined for aggregated emission source categories
- Emissions may be projected for alternate regional growth scenarios to determine the sensitivity of the projections to estimated growth rates
- The projection scenario approach may also be used to evaluate alternate emission control strategies.

The system is particularly well suited to projecting the effect of alternative growth/control scenarios mentioned above because of the ease in modifying existing data or entering additional data into the model, and because of the relatively efficient operation of the REPS program from a computer systems standpoint. The flexibility which is characteristic of the REPS system maximizes its utility for the above applications and other potential uses.

The CAASE gridding procedure[*] provides an objective method for constructing the grid system required to allocate countywide area source emissions. It also provides for the allocation of the emissions and activities associated with the various area source categories into that grid system. The grid sizes selected are mainly functions of the population density in a region. Thus, in an urbanized area with high population density the grids might have sides on the order of 1 km in length, while a more rural area might be represented by grids with sides of up to 30 km in length.

There are five main functions performed by the CAASE analysis package. These are:

a. Abstract population data and convert geographic coordinates from latitude-longitude to UTM (Universal Transverse Mercator) coordinates.

b. Plot "population circles" on a map of the study area.

c. Draw to scale a complete map of the entire AQCR portraying the grid system developed earlier (by manual means).

d. Assign apportioning values (factors) to each grid square.

e. Apportion "fuel" categories (i.e., NEDS activity levels) into each individual grid square and calculate the emissions of each pollutant for each grid square. (Actually, the total emissions for the county are calculated by the same means as are used in the NEDS programs, then the county totals for the five criteria pollutants are apportioned out to each grid square.)

Examples of the maps provided in items b and c, above, are shown in Figures 3.4.0.a and 3.4.0.b. Figure 3.4.0.c shows the result of the manual step[+] wherein the population circles are used to develop the grid system for the county under study. If an entire AQCR is to be investigated, each county within it is handled separately.

---

[*] The CAASE System is not currently operational on the EPA Univac 1110 computer. The conversion from IBM to Univac will be under the direction of the Source Receptor Analysis Branch of the Monitoring and Data Analysis Division. All questions should be directed to Chief, Computation Section, Source Receptor Analysis Branch.

[+] The manual step will be replaced by an automatic gridding procedure during FY 1976.

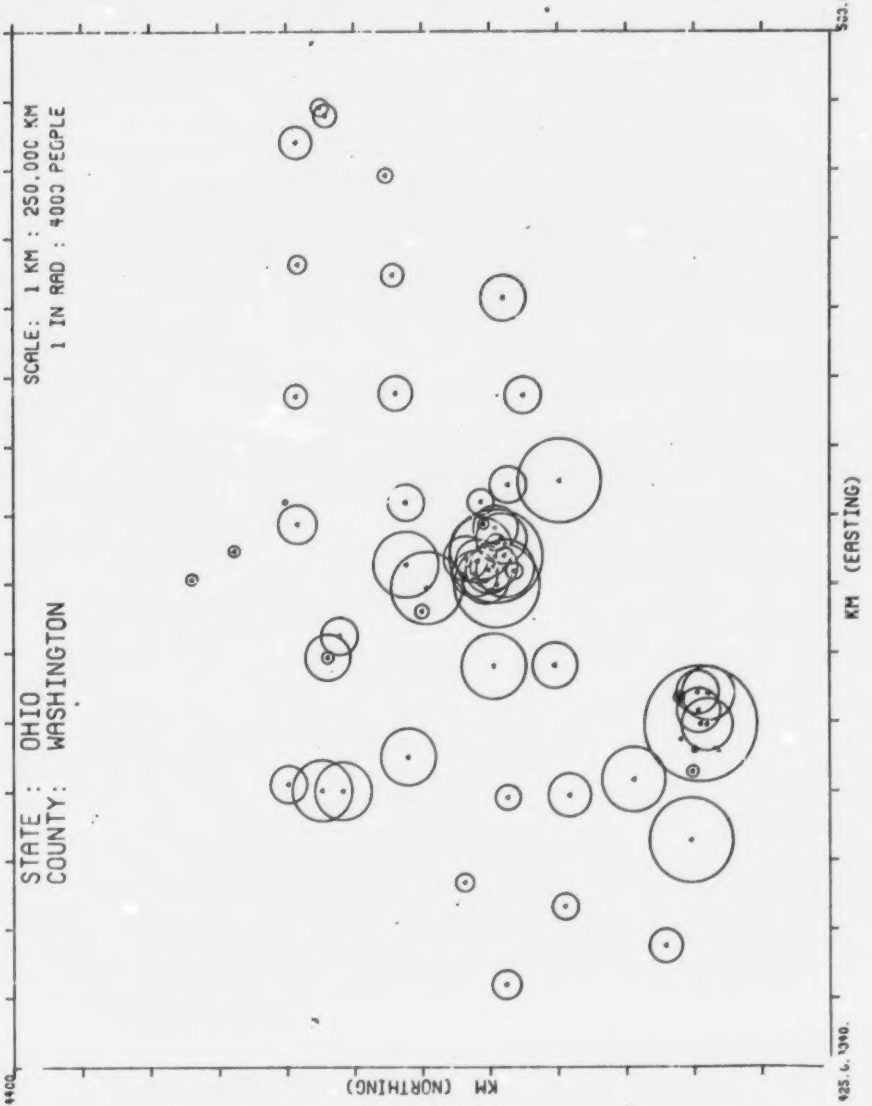


Figure 3.4.0.a. Example of Plotter Output from CAASE2

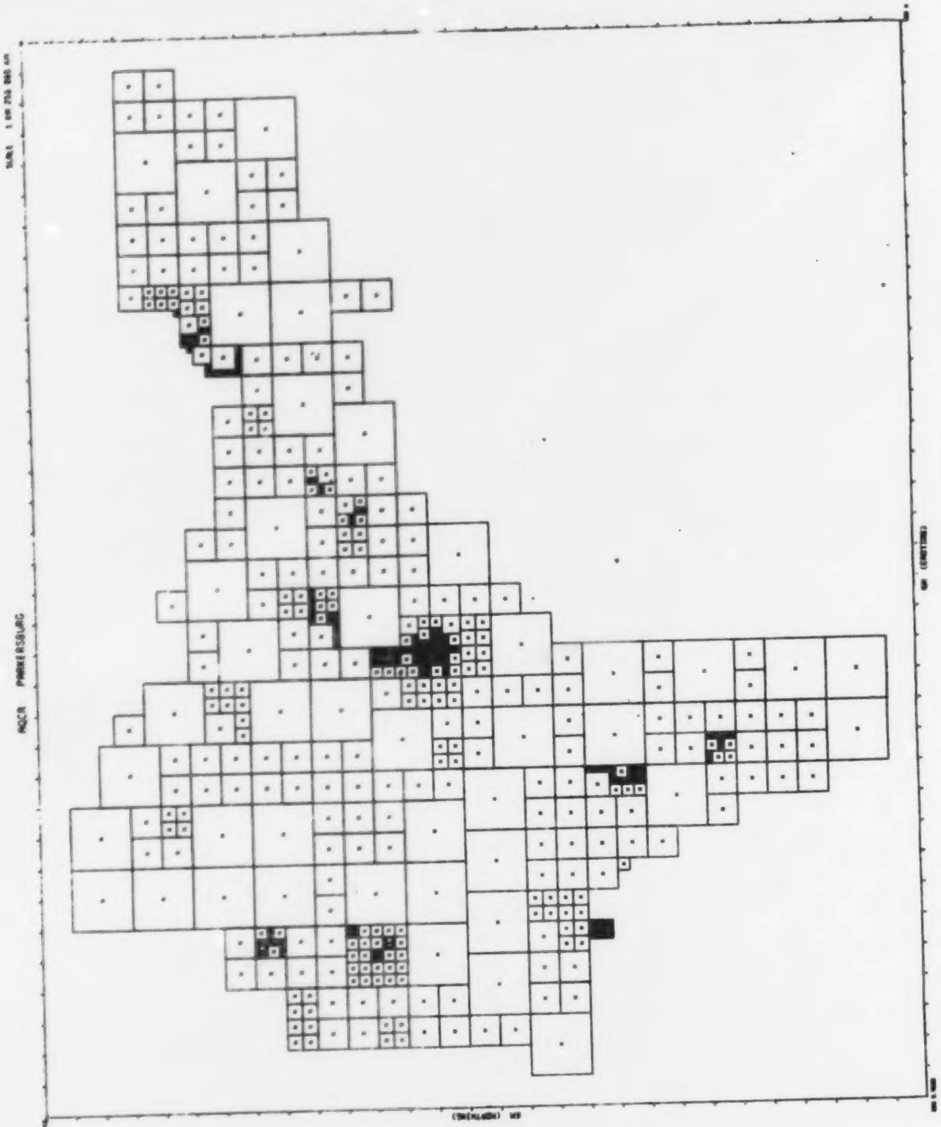


Figure 3.4.0.b. Example of Plotter Output from CAASE3

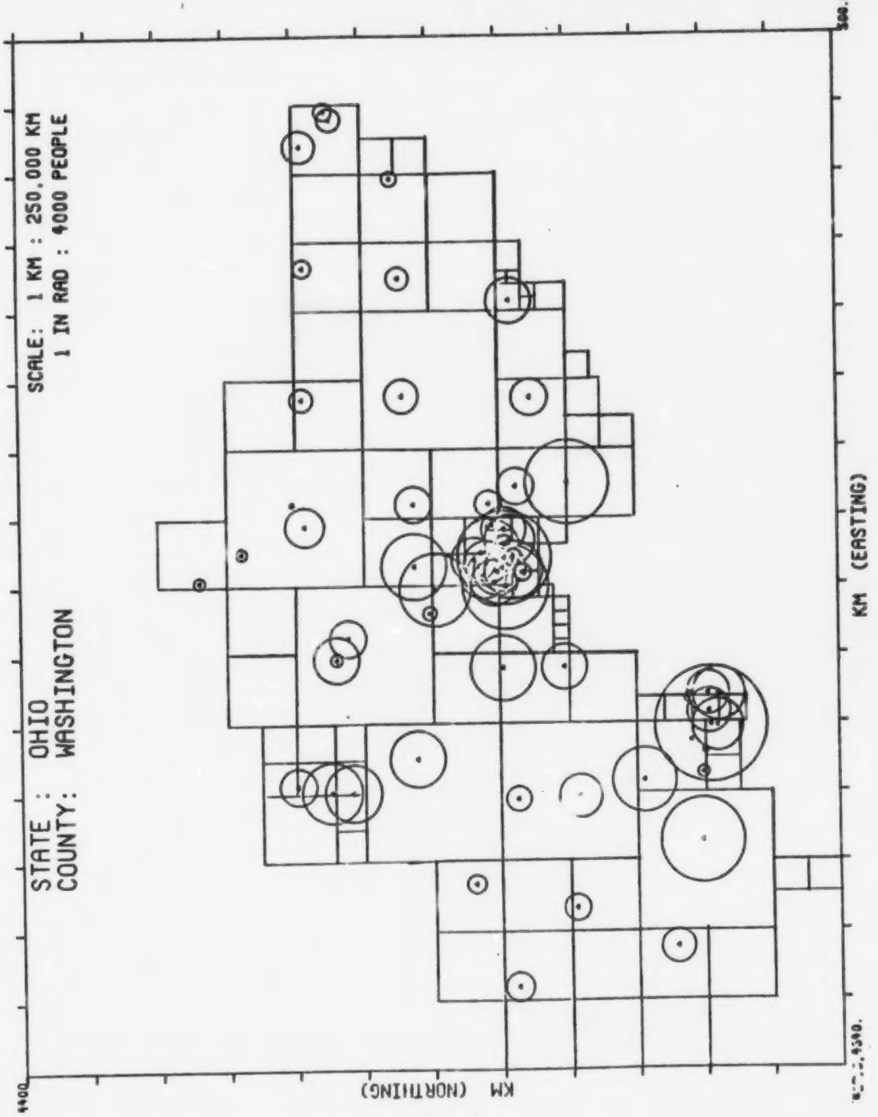


Figure 3.4.0.c. Example of Completed County Grid, Washington County, Ohio

As far as the general user is concerned, there are, in addition to the intermediate outputs generated during the process of developing the final outputs, two major and two minor reports. These are:

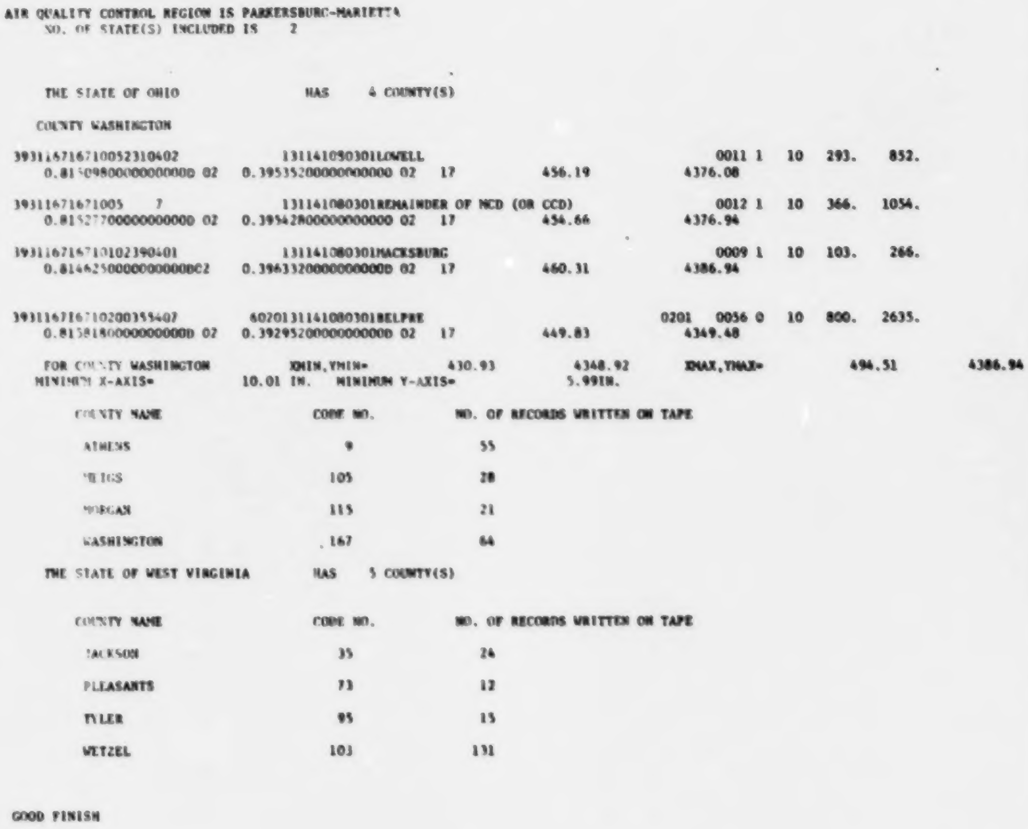
a. Apportioned Fuels Table
b. Tables of Apportioned Emissions of Each Pollutant
c. Contribution of Each Scouce Category to the County Total for Each Pollutant
d. Data for IPP System (the Air Quality Implementation Planning Program)*

One of the intermediate outputs that can be of value to the general user is the map of the derived grids for the AQCR. Although not considered to be one of the final products of the CAASE Analysis Package, the gridded map of the study area can be helpful in forming a mental image of the relationships among the various factors such as population density, area source "fuel" categories, and area source emissions over a county.

Examples of the four final outputs produced by the CAASE System are shown in Figures 3.4.0.d through 3.4.0.g.

---

*Under a proposed FY 1976 effort, input data for CDM and ADQM will also be options of the CAASE user.



```
AIR QUALITY CONTROL REGION IS PARKERSBURG-MARIETTA
     NO. OF STATE(S) INCLUDED IS     2


     THE STATE OF OHIO                   HAS     4 COUNTY(S)

    COUNTY WASHINGTON

 393116716710052310402                131141090301LOWELL                                0011 1   10   293.    852.
     0.81509800000000000 02   0.39535200000000000 02   17           456.19          4376.08

 39311671671005     7                 131141080301REMAINDER OF MCD (OR CCD)             0012 1   10   366.   1054.
     0.81527700000000000 02   0.39542800000000000 02   17           454.66          4376.94

 393116716710102390401                131141080301MACKSBURG                             0009 1   10   103.    266.
     0.8146250000000000OC2    0.39633200000000000 02   17           460.31          4386.94


 393116716710200355407            602013114100301BELPRE                            0201   0056 0   10   800.   2635.
     0.81581800000000000 02   0.39295200000000000 02   17           449.83          4349.48

     FOR COUNTY WASHINGTON           XMIN,YMIN=          430.93          4348.92       XMAX,YMAX=            494.51          4386.94
    MINIMUM X-AXIS=            10.01 IN.    MINIMUM Y-AXIS=            5.99IN.

        COUNTY NAME                     CODE NO.          NO. OF RECORDS WRITTEN ON TAPE

         ATHENS                             9                55

         MEIGS                             105               28

         MORGAN                            115               21

         WASHINGTON                        167               64

     THE STATE OF WEST VIRGINIA        HAS     5 COUNTY(S)

        COUNTY NAME                     CODE NO.          NO. OF RECORDS WRITTEN ON TAPE

         JACKSON                            35               24

         PLEASANTS                          73               12

         TYLER                              95               15

         WETZEL                            103               131


GOOD FINISH
```

Figure 3.4.0.d. Example of a Printout from CAASE1

```
AIR QUALITY CONTROL REGION IS PARKERSBURG-MARIETTA
    TOTAL NO. OF FILES IS   9 WE WANT  1 PLOT(S)


    MAP SCALE IS  6.35()12779 UNITS/KM.
    CIRCLE SCALE IS 1 IN. RADIUS /    4000.PEOPLE


    THIS COUNTY IS WASHINGTON

XNEW,YNEW,POPNEW =   0.491179E 01    0.568158E 01    0.213000E 00

XNEW,YNEW,POPNEW =   0.467084E 01    0.581692E 01    0.263500E 00

XNEW,YNEW,POPNEW =   0.556059E 01    0.739172E 01    0.664999E-01

XNEW,YNEW,POPNEW =   0.588501E 01    0.690205E 01    0.657499E-01

XNEW,YNEW,POPNEW =   0.307713E 01    0.372416E 01    0.143000E 00

XNEW,YNEW,POPNEW =   0.310550E 01    0.301365E 01    0.246250E 00

XNEW,YNEW,POPNEW =   0.426768E 01    0.152743E 01    0.247500E 00

XNEW,YNEW,POPNEW =   0.425665E 01    0.140440E 01    0.306250E 00

XNEW,YNEW,POPNEW =   0.406295E 01    0.151636E 01    0.253000E 00

XNEW,YNEW,POPNEW =   0.391020E 01    0.149237E 01    0.658750E 00

         AQCR PARKERSBURG-MARIETTA COMPLETED
         COUNTY NAME                       CODE NO.          NO. OF DISTRICTS PLOTTED

          WASHINGTON                         167                   64


GOOD FINISH
```

Figure 3.4.0.e. Example of a Printout from CAASE2

```
     AQCR IS PARKERSBURG

BOX     XPOINT      YPOINT      SIDE     COUNTY

173     425.0       4359.0      5.0     WASHT
174     425.0       4355.0      5.0     WASHT
175     425.0       4369.0      5.0     WASHT
176     430.0       4345.0      5.0     WASHT
177     430.0       4355.0      5.0     WASHT
```

Figure 3.4.0.f. Example of a Printout from CAASE3

```
         9 179      0 ATHE
         0  WEIGHTING FACTOR CARDS WERE READ IN

POPULATION CENTER WITHOUT A GRID            9      397.040      4374.578     954.     357.

ATHE   COUNTY HAD   90  GRID BOXES
       105 179      0 MEIG
         0  WEIGHTING FACTOR CARDS WERE READ IN

POPULATION CENTER WITHOUT A GRID          105      413.570      4317.316     684.     268.

MEIG   COUNTY HAD   57  GRID BOXES
       115 179      0 MORG
         0  WEIGHTING FACTOR CARDS WERE READ IN
```

Figure 3.4.0.g. Example of a Printout from CAASE4

3.4.1.1 APPORTIONED FUELS

3.4.1.1.1 GENERAL DESCRIPTION

The CAASE system was developed for the purpose of allocating in as objective a manner as possible the area source emissions from an entire county into an appropriate grid network that reflects, by the various grid sizes used, the distribution of population throughout the county of interest. Because the data, once allocated, are to be used in air quality models and also for evaluation of SIP's, the grid sizes should permit sufficient detail in the derived distribution of emissions to permit the use of such models without engendering excessive amounts of data through too great a resolution of the data. The objective of the CAASE method is to improve the representation of the area source emissions in a given county or AQCR by disaggregating the total emissions for the study area into a more finely meshed network or grid system. The outputs of the system reflect this objective.

The first of these outputs, the Apportioned Fuels Table, is shown in Figures 3.4.1.a to 3.4.1.e. The Table is in five parts to allow for the inclusion of all 54 of the so-called "fuel" types (these are actually the area source categories listed on pages 38 and 90 of the CAASE User's Manual, EPA-450/3-74-035, January 1974). Because all except 6 of these 54 categories involve some sort of combustion process, it is quite appropriate to refer to them as "fuels." Each "fuel" type appears in one of the columns of the table. Because each page can hold only 45 grid squares, a single county may require several pages for each of the five tables required to display all of the allocated "fuels" for the area source categoreis.

Every page contains, in addition to the columnar data that make up the body of the report, a "header" line at the top of the page giving the name of the county, the name of the AQCR, and the title of the report; e.g., "Apportioned Fuels, Table 1, page 1," etc., for each page of each of the five tables. Besides this information, each page also shows, in the first two columns, the number for each source and a four-letter abbreviation of the county name. In addition to this information, the first page of the first table contains five columns of extra identification including the AQCR number, the Political Jurisdiction, the X- and Y- coordinates to the nearest tenth of a kilometer of the lower lefthand (southwest) corner of the grid square, and the area of the grid in square kilometers. The first page of the report lists, for each of the grids on the page (up to 45 grids), the first six area source categories and subcategories. The second page, if required, lists the apportioned "fuels" for the same six categories for the next block of up to 45 grid squares, and so on until all grids in the county have been accounted for. The next listing, Table 2, is for the first 45 grids again, for the next 14 area source categories, one for each of 14 columns across the page, followed by the same "fuels" for the next set of grid squares, and so on as for Table 1. Table 3 contains the "fuels" data for the next 12 source categories, items 21 through 32 on the referenced list of Area Source Emissions Categories. Table 4 sets forth the data for the next 13 categories, items 33 through 45, and Table 5 displays the data for the last nine items.

3.4.1.1.2 SAMPLE REPORT

Figures 3.4.1.a. through 3.4.1.e. show a sample printout of the apportioned fuels table.

3.4.1.2 APPORTIONED EMISSIONS

3.4.1.2.1 GENERAL DESCRIPTION

As with the previous report, there are five tables for each complete set of 54 NEDS area source categories. In this case, however, there are 25 tables in all since the emissions for each of the five criteria pollutants are described separately (i.e., each is identical to that of the Apportioned Fuels Report (see paragraph 3.4.1.1 for details). Because the formats are exactly the same, only the first page of the first table for particulates is shown in the sample report for this paragraph.

3.4.1.2.2 SAMPLE REPORT

Figure 3.4.1.f. shows an apportioned emissions table. The tables are always printed in the following sequence by pollutant type:

a. Suspended Particulates (SP)
b. Sulfur Dioxide (SO_2)
c. Nitrogen Oxides (NO_x)
d. Hydrocarbons (HC)
e. Carbon Monoxide (CO)

```
WASHINGTON COUNTY, OHIO      (PARKERSBURG-MARIETTA AQCR)                              APPORTIONED  FUELS,  TABLE  1,    PAGE  1

                                                                  * * * * * * * * * * * RESIDENTIAL FUEL* * * * * * * * * * * *
SOURCE                POLIT               COORDINATES              ANTH.     BITUM.    DIST.OIL     RES.OIL      NAT.GAS      WOOD
NUMBER     REGION     JURIS     COUNTY   X(KM)     Y(KM)   (SQ.KM)  10EIT     10EIT     10E4GALS     10E4GALS     10E/FTS      10E2T

  173       179                  WASH    425.0    4350.0    25.00     0.        0.        0.           0.           0.          0.
  174       179                  WASH    425.0    4350.0    25.00     0.        0.        0.           0.           0.          0.
  175       179                  WASH    425.0    4360.0    25.00     0.        0.        0.           0.           0.          0.
  176       179                  WASH    430.0    4345.0    25.00     0.        0.        0.           0.           0.          0.
  177       179                  WASH    430.0    4350.0    25.00     0.        5.        2.           0.           4.          0.
```

Figure 3.4.1.a. Example of CAASE5 Output Table 1, Apportioned Fuels

```
WASHINGTON COUNTY, OHIO      (PARKERSBURG-MARIETTA AQCR)                            APPORTIONED FUELS, TABLE  2,  PAGE  1

                         * * * * * COMMERCIAL AND INSTITUTIONAL FUEL * * * * *     * * * * * * * * * * * * * *  INDUSTRIAL FUEL * * * * * * * * * * * * * *
SOURCE                   ANTH.  BITUM.  DIST.OIL     RES.OIL     NAT.GAS    WOOD    ANTH.  BITUM.   COKE   DIST.OIL    RES.OIL    NAT.GAS    WOOD   PROC.GAS
NUMBER    COUNTY         10E3T  10E3T   10E4GALS     10E4GALS    10E7FT3    10E2T   10E3T  10E3T    10E3T  10E4GALS    10E4GALS   10E7FT3    10E2T  10E7FT3


  173      WASH           0.     0.       0.           0.          0.        0.      0.     0.       0.      0.          0.         0.        0.      0.
  174      WASH           0.     0.       0.           0.          0.        0.      0.     0.       0.      0.          0.         0.        0.      0.
  175      WASH           0.     0.       0.           0.          0.        0.      0.     0.       0.      0.          0.         0.        0.      0.
  176      WASH           0.     0.       0.           0.          0.        0.      0.     0.       0.      0.          0.         0.        0.      0.
  177      WASH           0.    10.       5.           0.          0.        0.      0.    34.       0.      1.          0.         1.        0.      0.
```

Figure 3.4.1.b. Example of CAASE5 Output Table 2, Apportioned Fuels

```
WASHINGTON COUNTY, OHIO      (PARKERSBURG-MARIETTA AQCR)                          APPORTIONED FUELS, TABLE  3   PAGE  1

                     * ON SITE INCINERATION *  * * * OPEN BURNING * * *  * * * * GASOLINE FUEL * * * *   * * * * DIESEL FUEL * * * * *
SOURCE               RESID.  INDUST.  C-INST.  RESID.  INDUST. COM.INST.  LT.VEH.    HV.VEH.    OFF HIWY   HV.VEH.  OFF HIWY  RAIL LOCO.
NUMBER    COUNTY     10EIT   10E2T    10E2T    10E2T   10E2T   10E2T      10E3GAL    10E3GAL    10E3GAL    10E3GAL  10E4GAL   10E4GAL


 173       WASH       0.      0.       0.       0.      0.      0.         0.         0.         0.         0.       0.         0.
 174       WASH       0.      0.       0.       0.      0.      0.         0.         0.         0.         0.       0.         0.
 175       WASH       0.      0.       0.       0.      0.      0.         0.         0.         0.         0.       0.         0.
 176       WASH       0.      0.       0.       0.      0.      0.         0.         0.         0.         0.       0.         0.
 177       WASH       7.      1.       0.       1.      0.      0.       285.        57.        47.        30.      10.         0.
```

Figure 3.4.1.c. Example of CAASE5 Output Table 3, Apportioned Fuels

```
 WASHINGTON COUNTY, OHIO          (PARKERSBURG-MARIETTA AQCR)                               APPORTIONED FUELS,  TABLE  4,  PAGE  1

                        * * * * AIRCRAFT * * * * *      * * * * * * * VESSELS * * * * * * *     * * EVAPORATION * *   * * *  MEASURED VEHICLE MILES * * * *
SOURCE                  MILIT.     CIVIL     COMM'L.    BITUM.    DE. OIL    RES.OIL     GAS     SOL.PUR.   GAS.MKTD.  LTD.ACC.   RUR.RDS.   SUB.RDS.   URB.RDS.
NUMBER      COUNTY      LC10E2     LC10E1    LC10E1     10E1T     10E4GAL    10E4GAL   10E3GAL   TONS/YR    10E5GALS   10E6MI     10E6MI     10E6MI     10E6MI


 173         WASH        0.         6.         0.        0.        6.         0.         1.        0.         0.         0.         0.         0.         0.
 174         WASH        0.         6.         0.        0.        6.         0.         1.        0.         0.         0.         0.         0.         0.
 175         WASH        0.         6.         0.        0.        6.         0.         1.        0.         0.         0.         0.         0.         0.
 176         WASH        0.         6.         0.        0.        6.         0.         1.        0.         0.         0.         0.         0.         0.
 177         WASH        0.         6.         0.        0.        6.         0.         1.        4.         4.         0.         0.         0.         0.
```

Figure 3.4.1.d. Example of CAASE5 Output Table 4, Apportioned Fuels

```
 WASHINGTON COUNTY, OHIO       (PARKERSBURG-MARIETTA AQCR)                                                  APPORTIONED FUELS, TABLE  5,  PAGE  1

                                                                                                     FROST CONTROL               COAL REF.  BURN.
                         DIRT RDS. DIRT AIR    CONSTR. ROCK HAND.   * * FOREST FIRES *      SLASH BURNING      ORCH.      DATS    STRUC.   BANK      NUMBER
SOURCE                   TRAVELED   STRIPS   LAND ACR AND STORG.    AR.ACRES      QUANT.    AR.ACRES     QUANT.   HEAT.     FIRED    FIRES    SIZE         PER
NUMBER      COUNTY       10E2MI    LTO CYC   10E3ACR    10E3T                     T/ACR                  T/ACR    10E2      DT/YR    #/YR   10E2YD3      YEAR

  173        WASH          0.        0.        0.        0.          0.          0.         0.          0.      0.        0.       0.     0.          0.
  174        WASH          0.        0.        0.        0.          0.          0.         0.          0.      0.        0.       0.     0.          0.
  175        WASH          0.        0.        0.        0.          0.          0.         0.          0.      0.        0.       0.     0.          0.
  176        WASH          0.        0.        0.        0.          0.          0.         0.          0.      0.        0.       0.     0.          0.
  177        WASH          0.        0.        0.        0.          0.          0.         0.          0.      0.        0.       3.     0.          0.
```

Figure 3.4.1.e. Example of CAASE5 Output Table 5, Apportioned Fuels

```
WASHINGTON COUNTY, OHIO       (PARKERSBURG-MARIETTA AQCR)                   APPORTIONED EMISSIONS, TABLE 1, PAGE  1

                                                                                       (PARTICULATE)
                                                                                       (TONS PER YEAR)

SOURCE             POLIT              COORDINATES                ******************** RESIDENTIAL FUEL *****************
NUMBER   REGION    JURIS    COUNTY   X (KM)    Y (KM)   (SQ.KM)    ANTH.     BITUM.    DIST.OIL   RES.OIL   NAT.GAS   WOOD

  173      179               WASH    425.0    4350.0     25.00      0.        0.         0.        0.        0.       0.
  174      179               WASH    425.0    4355.0     25.00      0.        0.         0.        0.        0.       0.
  175      179               WASH    425.0    4360.0     25.00      0.        0.         0.        0.        0.       0.
  176      179               WASH    430.0    4345.0     25.00      0.        0.         0.        0.        0.       0.
  177      179               WASH    430.0    4355.0     25.00      0.        0.         0.        0.        0.       0.
```

Figure 3.4.1.f. Example of CAASE5 Output Table 1, Apportioned Emissions, Particulates

3.4.1.3 COUNTY TOTALS BY SOURCE CATEGORY FOR EACH POLLUTANT

3.4.1.3.1 GENERAL DESCRIPTION

In order to show the contribution of each area source emission category to the total emissions of that pollutant in the county, the county total for each source category is reported for each pollutant, as shown in the sample report. In the example, "pollutant number 1" is suspended particulates, number 2 is sulfur dioxide, number 3 is nitrogen oxides, number 4 is hydrocarbons, and number 5 is carbon monoxide. Below each line identifying one of the five pollutants appear the countywide totals of that pollutant that were determined to come from each of the 54 source categories. There are 10 categories per line, with the last four appearing in the last line. The categories are read from left to right, row by row, in sequence as given in the table on page 38 of the EPA publication referenced in paragraph 3.4.1.1. A copy of that table is shown in Table 3.4.1.a.

3.4.1.3.2 SAMPLE REPORT

Figure 3.4.1.g shows a sample report of emission totals by source category

Table 3.4.1.a. AREA SOURCE EMISSIONS CATEGORY NUMBERS

CATEGORY NUMBER	MAJOR CLASSIFICATION	MINOR CLASSIFICATION
1	RESIDENTIAL FUEL	ANTHRACITE COAL
2	RESIDENTIAL FUEL	BITUMINOUS COAL
3	RESIDENTIAL FUEL	DISTILLATE OIL
4	RESIDENTIAL FUEL	RESIDUAL OIL
5	RESIDENTIAL FUEL	NATURAL GAS
6	RESIDENTIAL FUEL	WOOD
7	COMMERCIAL & INSTITUTIONAL FUEL	ANTHRACITE COAL
8	COMMERCIAL & INSTITUTIONAL FUEL	BITUMINOUS COAL
9	COMMERCIAL & INSTITUTIONAL FUEL	DISTILLATE OIL
10	COMMERCIAL & INSTITUTIONAL FUEL	RESIDUAL OIL
11	COMMERCIAL & INSTITUTIONAL FUEL	NATURAL GAS
12	COMMERCIAL & INSTITUTIONAL FUEL	WOOD
13	INDUSTRIAL FUEL	ANTHRACITE COAL
14	INDUSTRIAL FUEL	BITUMINOUS COAL
15	INDUSTRIAL FUEL	COKE
16	INDUSTRIAL FUEL	DISTILLATE OIL
17	INDUSTRIAL FUEL	RESIDUAL OIL
18	INDUSTRIAL FUEL	NATURAL GAS
19	INDUSTRIAL FUEL	WOOD
20	INDUSTRIAL FUEL	PROCESS GAS
21	ON-SITE INCINERATION	RESIDENTIAL
22	ON-SITE INCINERATION	INDUSTRIAL
23	ON-SITE INCINERATION	COMMERCIAL & INSTITUTIONAL FUEL
24	OPEN BURNING	RESIDENTIAL
25	OPEN BURNING	INDUSTRIAL
26	OPEN BURNING	COMMERCIAL & INSTITUTIONAL FUEL
27	GASOLINE FUEL	LIGHT VEHICLE
28	GASOLINE FUEL	HEAVY VEHICLE
29	GASOLINE FUEL	OFF-HIGHWAY
30	DIESEL FUEL	HEAVY VEHICLE
31	DIESEL FUEL	OFF-HIGHWAY
32	DIESEL FUEL	RAIL LOCOMOTIVE
33	AIRCRAFT	MILITARY
34	AIRCRAFT	CIVIL
35	AIRCRAFT	COMMERCIAL
36	VESSELS	ANTHRACITE COAL
37	VESSELS	DIESEL OIL
38	VESSELS	RESIDUAL OIL
39	VESSELS	GASOLINE
40	EVAPORATION	SOLVENT PURCHASED
41	EVAPORATION	GASOLINE MARKETED
42	MEASURED VEHICLE MILES	LIMITED ACCESS ROADS
43	MEASURED VEHICLE MILES	RURAL ROADS
44	MEASURED VEHICLE MILES	SUBURBAN ROADS
45	MEASURED VEHICLE MILES	URBAN ROADS
46	DIRT ROADS TRAVELED	...
47	DIRT AIRSTRIPS	...
48	CONSTRUCTION LAND AREA	...
49	ROCK HANDLING & STORING	...
50	FOREST FIRES[a]	AREA-ACRES
51	SLASH BURNING[a]	AREA-ACRES
52	FROST CONTROL[b]	ORCHARD HEATERS
53	STRUCTURE FIRES	NUMBER PER YEAR
54	COAL REFUSE BURNING[c]	SIZE OF BANK

[a] Tons/acre also reported; [b] Days/year also reported; [c] Number/year also reported.

```
TOTALS BY SOURCE CATEGORY FOR POLLUTANT NUMBER     1
    1.400     33.500     3.500      0.0     26.030      3.000     0.0     366.049     23.725     0.0
    3.175      0.0       0.0     2979.183    0.0        3.525     0.0       4.320      0.0       0.0
   73.350     42.000     0.200     31.200   28.000     10.400     0.0       0.0        6.368     0.0
   24.410      0.875     0.0        1.229    0.0        0.0      55.375     0.0        0.240     0.0
    0.0        0.0       0.0        0.0      0.0       55.375     0.0       0.240      0.240     0.0
    0.0        0.0       0.0        0.0      0.0

TOTALS BY SOURCE CATEGORY FOR POLLUTANT NUMBER     2
    0.0      230.000     0.084      0.0      0.522      0.100     0.0     573.496     27.193     0.0
    0.096      5.250     1.273   2009.743    0.0        3.337     0.0       0.144      0.0       0.0
    1.272      5.250     0.0        0.144    1.750      0.650     0.0       0.0        4.367     0.0
   50.760      2.275     0.0        0.0      0.0        0.0     143.975     0.0        0.150     0.0
    0.0        0.0      53.540      0.0     35.694      0.0       0.0       0.0        0.0       0.0


       FOR POLLUTANT =    SP    TOTAL EMISSIONS=        3756.954
```

Figure 3.4.1.g. Contribution of Each Source Category-Pollutant Combination to the County Total

3.4.1.4 IMPLEMENTATION PLANNING PROGRAM (IPP) FORMATTED OUTPUT

3.4.1.4.1 GENERAL DESCRIPTION

One of the important uses for the CAASE system is to provide inputs to certain mathematical or simulation models used extensively within EPA and elsewhere to develop concepts regarding diffusion processes in urban areas and for other purposes as well. One of these models, known as IPP, is used to assist the states in their preparation of State Implementation Plans (SIP's) for the attaining and maintaining of the national ambient air quality standards. In IPP, computer simulation is used to select appropriate emission standards, evaluate the resulting air quality, and determine the costs associated with the various alternative control strategies. The five major IPP reports are used by control strategies personnel for recommending effective air pollution control actions.

One of the most important functions performed by IPP is to develop a "contribution file," which is used to estimate the contribution from each source to each pollutant receptor defined within the region being investigated. As part of this process, the spatial distribution of the emissions of each pollutant being evaluated must be determined throughout the region. The contribution from the area sources within the region is provided by the "IPP-Formatted" output of the CAASE system. Thus, the content of this output consists of certain identifying information plus the total emissions for each grid square of each of the five pollutants from all source categories.

3.4.1.4.2 SAMPLE REPORT

Figure 3.4.1.h. shows a listing of typical IPP formatted output. Because this output is used in the form of a punched-card deck, the printed tabulation is not designed for ease of reading. There are no printed headings and the numbers are not self-explanatory, for the most part. Therefore, a word of explanation is in order. The first three digits on the left are the AQCR number (AQCR #179 is the Parkersburg-Marietta AQCR in Ohio and West Virginia). The next four digits, all nines in this case, are reserved. The 13-digit group contains the coordinates of the grid square, while the next column of 2, 3, or 4 digits gives the area of each grid square. The function of the next column ("33" in the example) is not available. The following five columns contain the totals for each grid square (one line of output per square) of the emissions from all 54 source categories of the five "criteria" pollutants in order; thus, the first of these columns gives the total for a given grid square of suspended particulates, while the next column gives the same information for sulfur dioxide, and so on. The same sequence of pollutants is used as given in paragraph 3.4.1.2.2, above. The next two columns give, respectively, the state and county codes (Ohio is State No. 36 and Washington County has SAROAD Area Code 7100). This report is a listing of the individual card images provided to IPP by CAASE. It is important to note that all emission rates have been converted from tons/year to tons/day for the purpose of this report, because those are the units used by the IPP Model.

```
1799999   1730425043500   250    33   0.006   0.002   0.007   0.005   0.011    36   7100   A
1799999   1740425043550   250    33   0.006   0.002   0.007   0.005   0.011    36   7100   A
1799999   1750425043600   250    33   0.006   0.002   0.007   0.006   0.011    36   7100   A
1799999   1760430043450   250    33   0.006   0.002   0.007   0.006   0.011    36   7100   A
1799999   1770430043500   250    33   0.128   0.149   0.213   0.287   1.239    36   7100   A
                                                 :
```

Figure 3.4.1.h. Example of CAASE5 IPP Card Output

Modeling, which is currently being developed, is a computerized procedure for estimating the parameters required for modeling that are missing from NEDS. The programs produce the necessary input formats for IPP and AQDM models.

Questions concerning this procedure should be directed to Chief, Computation Section, Source Receptor Analysis Branch.

As used in this Section, "User Access" is defined as the set of procedures that must be followed by any potential user of AEROS to facilitate the speedy and efficient fulfillment of his request.

Before a potential user requests information from AEROS, the standard computer reports as documented in Sections 2.0.0 through 3.5.0 should be reviewed to see if the specific information is available in any of these reports. If a specific report or a combination of reports meets the data requirements, the procedures as documented in this Section should be followed. Even if a specific report does not meet the specific requirements, the procedures should be followed to determine whether new reports have been developed, but not documented in Sections 2.0.0 through 3.5.0, or whether the data are available from other sources.

This Chapter deals with procedures to be utilized by users outside of the United States Environmental Protection Agency. This user community includes state and local air pollution control agencies, universites, consultants, contractors, private citizens, and private industry. Excluded from this group are other Federal agencies and groups utilizing the data for a grant or contract to any Federal agency.

Requests from the non-EPA users group will be treated under the Freedom of Information Act. After the request is received in writing, the cost will be estimated, and the requestor will be informed of the approximate cost. The request will not be processed until the requestor has agreed to pay this charge.

The procedures to request information from AEROS vary depending on whether the data are for states under the jurisdiction of one EPA Regional Office (Intra-regional) or several Regional Offices (Inter-regional). Table 4.1.1-a gives a list of states in each Regional Office and should be utilized to determine if it is an intra-regional or inter-regional request.

For requests for intra-regional data, the correct Regional Office should be determined from Table 4.1.1-a and the address or telephone number as given in Table 4.1.1-b should be utilized. The specific name of the NEDS or SAROAD contact is not given, but the address and telephone numbers are correct. The request should be addressed to the attention of the NEDS or SAROAD Contact. If the request is for a standard report, a letter specifying the report name, the retrieval options, and the sort options is sufficient. If the request is not for a standard report, a telephone call may be necessary to discuss the specific data needs.

For requests for inter-regional data, the letter or telephone call should be directed to one of the regional contacts or to:

Chief, Reports and Information Section (MD-14)
National Air Data Branch
Environmental Protection Agency
Research Triangle Park, NC 27711

FTS - 8 - 692-5395
Com. (919) 688-8146, ext. 395

Table 4.1.1.a. LIST OF STATES BY REGIONAL OFFICE

Region I

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Region II

New Jersey
New York
Puerto Rico
Virgin Island

Region III

Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

Region IV

Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

Region V

Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

Region VI

Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Table 4.1.1.a (continued). LIST OF STATES BY REGIONAL OFFICE

Region VII

Iowa
Kansas
Missouri
Nebraska

Region VIII

Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

Region IX

Arizona
California
Guam
Hawaii
Nevada

Region X

Alaska
Idaho
Oregon
Washington

Table 4.1.1.b. REGIONAL OFFICE CONTACTS

REGIONAL OFFICE	NEDS	SAROAD
I	Air Hazardous Division EPA, Region I John F. Kenndy Bldg Boston, Mass 02203 FTS 8-223-4448 Com. (617) 223-4448	Surveillance and Analysis EPA, Region I John F. Kenndy Bldg Boston, Mass 02203 FTS 8-223-4448 Com. (617) 223-4448
II	Air Coordinator Office EPA, Region II 26 Federal Plaza New York, New York 10007 FTS 8-264-4581 Com. (212) 264-4581	Air Coordinator Office EPA, Region II 26 Federal Plaza New York, New York 10007 FTS 8-264-4581 Com. (212) 264-4581
III	Management EPA, Region III 6th and Walnut Street Philadelphia 19106 FTS 8-597-8046 Com. (215) 597-8046	Management EPA, Region III 6th and Walnut Street Philadelphia 19106 FTS 8-597-8046 Com. (215) 597-8046
IV	Air Program EPA, Region IV 1421 Peachtree St NE Atlanta, Georgia 30309 FTS 8-526-2864 Com. (404) 285-2864	Air Program EPA, Region IV 1421 Peachtree St NE Atlanta, Georgia 30309 FTS 8-526-2864 Com. (404) 285-2864
V	Surveillance and Analysis EPA, Region V 230 S. Dearborn Chicago, Ill 60604 FTS 8-353-6738 Com. (312) 353-6738	Surveillance and Analysis EPA, Region V 230 S. Dearborn Chicago, Ill 60604 FTS 8-353-6738 Com. (312) 353-6738
VI	Data System Branch Management EPA, Region VI 1600 Patterson Street Dallas, Texas 75201 FTS 8-749-1176 Com. (214) 749-1176	Data System Branch Management EPA, Region VI 1600 Patterson Street Dallas, Texas 75201 FTS 8-749-1176 Com. (214) 749-1176
VII	Air Hazardous Division EPA, Region VII 1735 Baltimore Avenue Kansas City, Mo 64108 FTS 8-374-3791 Com. (816) 758-3791	Air Hazardous Division EPA, Region VII 1735 Baltimore Avenue Kansas City, Mo 64108 FTS 8-374-3791 Com. (816) 758-3791
VIII	Surveillance and Analysis Division EPA, Region VIII 1860 Lincoln Street Denver, Colorado 80203 FTS 8-327-4261 Com. (303) 837-4261	Surveillance and Analysis Division EPA, Region VIII 1860 Lincoln Street Denver, Colorado 80203 FTS 8-327-4261 Com. (303) 837-4261
IX	Surveillance and Analysis Division EPA, Region IX 100 California Street San Francisco, Ca 94111 FTS 8-556-2270 Com. (415) 556-2270	Surveillance and Analysis Division EPA, Region IX 100 California Street San Francisco, Ca 94111 FTS 8-556-2270 Com. (415) 556-2270
X	Management EPA, Region X 1200 6th Avenue (M/S 413) Seattle Washington 98101 FTS 8-442-1580 Com. (206) 399-1580	Management EPA, Region X 1200 6th Avenue (M/S 413) Seattle Washington 98101 FTS 8-442-1580 Com.(206) 399-1580

If the request is for a standard report, a letter specifying the report name, the retrieval options and the sort options is sufficient. If the request is not for a standard report, a telephone call may be necessary to discuss the specific data needs.

In addition to stating the report name, the retrieval options, and the sort options, any letter requesting data should include the person to contact concerning technical questions and the date when a response from NADB is needed.

This Chapter describes the procedures to be followed by users who are either direct employees of the U.S.EPA or are working under a grant or Federal contract given by EPA. Any employee of EPA or other individuals who are registered users of the National Computer Center (NCC), Research Triangle Park, North Carolina, can retrieve data using the AEROS Terminal Users System as explained in Section 4.2.2, can utilize the routine AEROS programs, or can utilize the procedures and file formats in Sections 7.0.0-7.2.3 to write software to create specific reports.

The procedures to request information from AEROS vary depending on whether the requestor is an EPA employee or contractor and where he is located or whether the requestor is an employee, contractor, or grantee for another Federal agency.

If the requestor is an EPA employee or contractor, the EPA employee or project officer must submit the request. If the requestor is located in an EPA Regional Office, the request should be submitted to the NEDS or SAROAD Contract in the Regional Office. All other EPA requests should be submitted to:

Chief, Reports and Information Section (MD-14)
National Air Data Branch
Environmental Protection Agency
Research Triangle Park, North Carolina 27711

The request should include the report name or information required, retrieval options, and sort options.

If the requestor is an employee, contractor, or grantee for another Federal agency, the Federal agency employee must submit the request. All requests of this type should be submitted to: the Chief, Reports and Information Section at the above address. The request should include the report name, the retrieval options, and the sort options. If requests of this type are determined to be of major impact on the Branch's computer budget, the requestor may be required to establish user and account codes by way of Interagency Agreements. In all cases, the request should include the person to contact concerning technical questions and the data when a response from NADB is necessary. Any request may be preceded by a telephone call to Chief, RIS (FTS 629-5395) to discuss the availability of the data and the necessary report formats. Such a call may prevent unnecessary work and wasted time occasioned by "inappropriate" requests (i.e. requests for data inappropriate to the user's needs or for data that are nonexistent or not yet in a suitable form to staisfy the particular requests).

4.2.2 AEROS TERMINAL SYSTEM (ATS)

4.2.2.0 INTRODUCTION

The Aerometric and Emissions Reporting System (AEROS) has been expanded to enable users to access the emissions and air quality data files for retrieval via demand (interactive) terminals. Using this system, the user can interactively access the data files or can build requests that are then submitted to the operating system to be run at a later time (batch). The user has the option of requesting the output be printed at his low- or medium-speed terminal or requesting the output be printed at the central computer site and be mailed to him later.

The AEROS terminal system is designed so that users who are not familiar with computers as well as users who are computer-oriented can access the system and submit their requests. The system operates in a conversational mode to request information from the user. A function (subprogram) is specified by the user, the master program calls the appropriate subprogram, and the subprogram assumes control.

The two types of subprograms are those that retrieve data immediately and display them on the low-speed terminal (interactive) and those that ask the user questions that allow a run to be generated and submitted for later processing (remote batch). The first time a remote batch function is requested, the master program asks the user for fixed accounting information such as account code. This information is then used for all remote batch runs submitted. Other information, such as run time, is requested by each individual remote batch function.

When a user has accessed all the desired functions and has returned to the master program, the END command will take him out of the system. The user is returned to the EXEC 8 operating system in which any software available at this time, including reentry to the AEROS Terminal System, can be used.

Descriptions of the master program and all available functions follow, and sample interactive sessions and sample outputs are included. Any questions regarding this system, other than instructions on how to use a specific type of terminal, are to be referred to:

National Air Data Branch (MD-14)
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711
Phone: (919) 688-8146, ext. 247

Questions regarding accounting information, use of a terminal, or the status of the UNIVAC 1110 are to be referred to:

NATIONAL COMPUTER CENTER (MD-34)
U.S. Environmental Protection Agency
Research Triangle Park, N.C. 27711
Phone: (919) 549-8411, ext. 2501

Note: Throughout the manual the selection commands are listed as follows:

```
'state=??'

'site=???'
```

The number of question marks following the equal sign defines the number of characters in that code. In the above examples, the state command requires two characters following the equal sign and site requires three. If the incorrect number of characters is entered, the command is rejected.

4.2.2.1 REQUIRED ACCOUNTING INFORMATION

In order to use the AEROS terminal system, the user must be registered at the National Computer Center (NCC), Research Triangle Park, N.C. The accounting symbols assigned to the user plus other information necessary to submit batch jobs will be requested by the terminal system. The information required is:

i. account number.

ii. project code.

iii. terminal identification code. (This information is used for routing the printout generated by batch jobs. It can be either the user's site or the central computer site.)

iv. priority code. (This is one of a system of codes established by NCC.)

v. run identification code. (This code is composed of an NCC-assigned bin number and up to four additional characters specified by the user.)

vi. estimated run time
(The user must furnish an estimate to be entered on the @RUN card. This estimate and the priority code are related. Sample estimates for the batch runs are given in the functional sections).

Almost all of the codes require interaction with the National Computer Center. If the user has questions relating to these items, please call User Services, FTS (919) 629-2501.

4.2.2.2 COMPUTER INSTRUCTIONS FOR ENTERING ATS

In order to use ATS, the user must know how to dial the computer, establish contact, and identify himself to the operating system. The procedure varies slightly from terminal to terminal so no attempt is made here to instruct the user on terminal usage. If there is a need for instruction in this area, please contact User Services, NCC as listed in section 4.2.2.0 of this manual.

When contact with the UNIVAC 1110 has been established and the user's terminal identification has been accepted, the operating system will print a message identifying the operating system. At this point the user must enter an @RUN card to begin his session. Please note that, because of the ATS design, the user must specify the CARD parameter on the RUN card if the remote batch portion of the ATS is to be used. No cards will actually be punched.

A sample RUN card is:
@RUN RUN-ID,ACCT-NO,PROJ,TIME,PAGES/CARDS

where:

RUN-ID	is the users run identifier, which usually consists of a bin number and four user-assigned characters to identify the run.
ACCT-NO	is the users registered UNIVAC 1110 account number.
PROJ	is the users registered UNIVAC 1110 project code.
TIME	is the estimated SUP time the terminal session will last (On 9/30/75 NCC had established 15 minutes as a maximum time limit).
PAGES	are the estimated number of pages for the terminal session.
CARDS	are the estimated number of cards to be punched by the system. This entry should be 999 if the remote batch portion of ATS is to be used.

Once the user's RUN card has been accepted, the date and time the user signed on is displayed on the terminal and the user can start entering instructions. When the user is ready to use the AEROS Terminal System, the following sequence of instructions is entered.

```
@ASG,A   NADB*NADB-ABS/SDS.
@COPY,A  NADB*NADB-ABS.ATS
@FREE    NADB*NADB-ABS.
@ATS
```

The user will enter the master program and interaction with the system will begin. (All responses entered by the user within ATS must be in capital letters.) When the user is finished with the system, the END command is entered. Control is returned to the operating system and the user is free to access any UNIVAC 1110 functions desired, re-enter the ATS, or sign off the UNIVAC system. To sign off, the user enters @FIN, waits for the accounting information to print, and then enters @@TERM.

Should the 1110 system go down or should the line drop during an ATS session, the user has to re-dial the computer and follow regular sign on procedures to re-enter the system. If the user was building remote batch jobs at the time computer contact was broken, only the job being constructed at that time is lost. This is due to the dynamic submission of batch runs by the ATS at the time the user requests the run be submitted.

4.2.2.3 ATS MASTER PROGRAM

The ATS master program is designed as a processor. This means that all the files required for the system are dynamically assigned by the program. If there are any problems encountered in assigning a file, a message is printed but processing continues. If a file is unavailable, only those functions using that particular file are not operable. The messages and their meanings are listed below.

i. file name WAITING TO ROLL FILE IN
The file specified has been rolled out by the 1110 Operating System and the terminal system is waiting for the file to be restored to mass storage.

ii. file name DESTROYED--CONTINUING
The file specified has been marked as having been destroyed by the 1110 Operating System. The system will continue but any function using the specified file will not be operational. Call NCC, User Services Section.

iii. file name DISABLED--CONTINUING
The file specified was in use when the 1110 system crashed. There is usually no problem with using the file.

iv. file name IN EXCLUSIVE USE-CONTINUING
The file specified is in exclusive use by another run. This usually happens when NADB is updating the file. The system continues, but functions requiring the specified file will be inoperable. A later attempt may provide access to a function requiring this file.

v. file name FACILITY REJECTED--CONTINUING
The file specified does not exist. It may have been removed by the 1110 Operating System or may have been deleted in preparation for an update that then failed. Call NADB, Data Processing Section.

The user is asked if a CRT terminal is being used. A CRT terminal is a cathode-ray-type terminal such as a UNISCOPE 100 or a HAZELTINE 2000. The interactive functions are designed to utilize either a 120-character print line or a 72-character print line. If you answer YES to the CRT question, a 72-character line is used. If answer is NO, a 120-character line is used.

Next, the user is asked whether instructions are needed for using the system. If YES is entered, a brief discussion of the system and the function list are provided. Each function entered then prints a brief description of itself thereafter. If NO is entered, it is assumed that the user is familiar with the system and less instructional information is displayed. If the user enters NO and then decides he needs a list of the functions, he can enter HELP after the FUNCTION? prompt.

When the FUNCTION? prompt is printed, the user is free to enter any valid ATS function. If an invalid entry is encountered, a message is printed and the FUNCTION? prompt is printed again. If the user has finished using ATS, he enters END after the FUNCTION? prompt and control is returned to the UNIVAC 1110 operating system.

If an interactive function is specified, control is immediately passed to the appropriate subprogram. Interaction between the user and the data files via commands given to the subprogram continues until the END command is entered. The subprogram then returns control to the master program and a new function is requested.

If a remote batch function is requested, the master program first checks to see if this is the first remote function requested during the current terminal session.

If this is not the first batch function requested, control is passed to the appropriate subprogram. The subprogram interacts with the user to construct remote batch runs. When the final END command for the subprogram is encountered, a summary of the job constructed is printed for user review. The user has the option of submitting or cancelling the constructed run. If the run is submitted, the subprogram dynamically submits the run to the UNIVAC 1110 system. The job enters the job queue at this point and is eligible for execution. (As jobs are submitted to the UNIVAC operating system, a message is returned indicating the run identifier and whether the run was accepted or not). After the job is submitted or cancelled, control is returned to the master program.

The first remote batch function requested during a terminal session causes the master program to request some fixed accounting information. The information requested is then used for all batch runs constructed during the terminal session. The information requested is:

i. project code. At the prompt, PROJ?, the user should enter his valid UNIVAC project code.

ii. terminal identifier. The user can select a location where all of the remote batch output will be routed This location can be a low-speed, medium-speed or high-speed terminal. To route the output to the central UNIVAC 1110 site the user enters PR. The location selected is entered after the TERMINAL ID? prompt.

iii. account number. Account numbers must be registered with NCC before run submissions will be accepted. The account number is entered after the ACCT #? prompt.

No validity or edit checks are made for the above three entries by ATS. At the point an actual batch run is submitted to the 1110 operating system, a check is made by that system against the valid account and project code combinations. If the combination entered is not valid, the run will not be accepted.

After the initial information is entered for the first access of a batch function, control is passed to the appropriate subprogram and the session proceeds as described above.

The following sections describe the actual functions available within the AEROS Terminal System. Besides the descriptive name, the subsystem, access type, and function entry is listed. The notation used is:

S = SAROAD
N = NEDS
I = Interactive Access
RB = Remote Batch Access

4.2.2.4 NEDS CONDENSED AND FULL POINT SOURCE LISTING (N, RB, PS)

4.2.2.4.0 DESCRIPTION

The point source function is a NEDS remote batch function that allows the user to retrieve the most detailed information available on a point by point basis. A condensed listing or a full listing is selected by the user. The condensed version presents a subset of information from the full listing. Seven lines per SCC are printed in the condensed listings versus one page per SCC in the full listing. Sample printouts of these two reports are included in this section.

4.2.2.4.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed. After this entry, a series of questions are asked to allow the user full flexibility of the batch report. One question allows the user to select either the full or condensed listing. Other questions are:

i. Do you wish to specify a pollutant and minimum values? If so, do you need a listing of the valid pollutant codes? At the prompt POLL,VALUE? the user enters a one digit pollutant code, a comma, and a six digit minimum value. The minimum value must be six digits with leading zeroes entered by the user if required. An entry of 1,000150 would specify that the user wanted to list all plant-point-SCC combinations for which the calculated particulate emissions are over 150 tons per year. The valid pollutant codes are:

1 - particulate
2 - sulfur dioxide
3 - nitrogen dioxide
4 - hydrocarbons
5 - carbon monoxide
blank - select all (blank entry)

ii. Do you want the standard or a special sort sequence? The standard sort sequence is STATE-COUNTY-PLANT-POINT-SCC. There are, however, twenty individual sort fields that can be specified in any order. The user may tailor his sort sequence to satisfy his own needs, if desired. The user may request a list of the valid sort codes if one is needed. An example of a special sort is 11, 01,02,03,04,05. This sequence will cause the report to print out the state-county-plant-point-SCC having the highest calculated emissions for the selected pollutant first, next highest, etc.

The special sort sequence is entered after the SORT? prompt with the first sort code, comma, the second sort code, comma, and so on up to the minimum of twenty codes. Usually not more than six codes are required to sort a report as desired.

A special entry is provided to allow a user to cancel the sort just entered and to enter a new sort sequence. After the user enters a sequence, it is echoed back so the user can review his entry. The prompt X or END? is printed. If X is entered, a message indicating the previous sort is ignored prints and the user is returned to the SORT? prompt. If the END is entered after a sort sequence is echoed, the sort is entered in the batch request and the session continues.

The valid sort codes are:

01 - state
02 - county

03 - plant number
04 - point number
05 - SCC (source classification code)
06 - ownership
07 - SIC (standard industrial classification code)
08 - estimation method
09 - AQCR
10 - plant name
11 - pollutant value
12 - year of record
13 - control equipment
14 - control efficiency
15 - sulfur content
16 - ash content
17 - city
18 - UTM coordinates
19 - operating rate
20 - confidentiality

iii. Do you want confidential data? The user may select confidential data if he knows the special NADB confidentiality codes. One must be aware of the legal implications of releasing confidential data to others without the permission (in writing) of the source. The individual making the retrieval will be considered individually responsible for the data retrieved. If it is confidential data, the user must follow all legal requirements. Confidentiality codes are available from NADB only and will not be made available to non-EPA personnel (Call NADB for required code).

iv. Do you wish to specify significant digits (standard is 3)? YES OR NO? The system generates reports to three significant digits. The prompt allows the user to change this standard if he desires. This is done by entering any digit from one to nine in response to the prompt NUMBER? If the user enters any character other than digits one to nine, the system will default to the standard (three digits).

v. Do you want metric units? (standard is ENGL). The user can request that the calculated emissions be printed in metric units if desired. The entry YES will indicate that metric units are to be used. Otherwise the system defaults to the English units.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run is requested within the batch function. The variable information is run identifier, priority codes, and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCC assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers but it is not recommended since tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classifies runs and enables the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and numbers of tape or disk drives required. This function requires one tape drive during the batch run. Therefore, one tape mount and the time required must be considered when assigning this priority code. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the PRIORITY? prompt.

The user must estimate the SUP time which will be required to complete his request. This time will vary depending upon the type of request, i.e. condensed or full listing, and the amount of data selected. Some very rough estimates are listed here but a certain amount of trial and error is involved in estimating these times. It is better to estimate high but this lengthens your turnaround time.

Examples: (as of 10/75)

Selection	Time (minutes)
less than a state	5-40 (average less than 10)
state	10-60 (average 10-15)
AQCR	30-60 (average 30-40)

A tape is required to produce the NEDS FULL POINT SOURCE LISTING or the NEDS CONDENSED POINT SOURCE LISTING. This tape will contain data meeting selection criteria as requested by user, from which the report is produced. The reel number of the tape to be used is to be supplied by user; a maximum of six reel numbers may be supplied. These reel numbers are to be separated by slashes (/). The user should specify the expiration date for the tape file following the last reel number entered. The correct form is reel number(s), a comma, and the desired number of days the file is to be retained (reel 1/reel 2/.../reel(n), #days). The maximum number of days which can be specified is 4095. If the user does not specify an expiration date, zero is used.

4.2.2.4.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? There are six selection categories and four fixed command entries. The selection category used reflects to a degree the amount of output to be printed. For example, report one, state selection will probably generate more output than report three, state/county/plant selection. The fixed commands, SIC, ownership, and estimation method will apply to all selection commands. The final END command terminates the function. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. A full discussion of all commands follows.

	COMMAND	DESCRIPTION
i.	report=?	report selection category wanted. Various options are open to the user to limit his retrievals to a manageable size. The option desired is chosen by specifying the selection class corresponding to it. The options are: 1- state. The retrieval is limited to one state. The entire state except as limited by the SIC, ownership, and estimation method entries is retrieved. A large amount of output is generated via this selection, and it should be used with caution. 2- state/county. As many state-county combinations as desired may be entered. 3- state/county/plant. As many state-county-plant combinations as desired may be entered. 4- state/county/plant/point. As many combinations as desired may be entered. 5- state/SCC. As many state-SCC combinations as desired may be entered. Caution must be exercised as some combinations will result in large amounts of output.
ii.	own=?	ownership code. The valid codes are: p = private l = local government s = state government f = federal government u = utility
iii.	sic=????	standard industrial classification code. For more information see the Standard Industrial Classification Manual.
iv.	est=?	method of estimating emissions. The valid codes are: 0 = not applicable

COMMAND	DESCRIPTION
	1 = stack tests or other emission measurements 2 = material balance 3 = EPA emission factors 4 = guess 5 = special emission factor other than EPA emission factor 6 = new construction, not yet operational 7 = facility closed, ceased operation
v. end	terminate function. This command, following the COMMAND? prompt, signals the end of user specifications for this function.

The OWN, SIC and EST commands are strictly optional. They may be used if the user so desires after any COMMAND? prompt. If they are not used, records are selected based only on the REPORT entries. If any entry is made for any or all of the three commands, that criteria is applied to all records selected in the batch run. For example, if ownership was specified as U (utility), in the batch run, only utilities would be printed.

When the user selects a category for entering selections, he enters a loop which allows him to enter as many combinations as desired (except for category 1, state). For each category, when this loop is entered and after each entry (except END) a prompt is printed indicating the information required. These prompts differ from category to category but basically they are: combination, X or END. The combinations reflect the category. For example, category three is the state/county/plant category. The messages, ENTER 10 CHARACTER STATE/COUNTY/PLANT CODE,X, OR END and SCP, X OR END are printed. SCP represents state/county/plant. The combination entered must be of the correct length or it is rejected. The entry, X, causes the previous combination entered to be ignored. This mechanism allows users to delete erroneous information entered. END signifies that all combinations desired have been entered.

When the END command is entered after the COMMAND? prompt, a summary of the batch run constructed is listed. The user has the option of submitting the run as listed or cancelling it. If the user enters YES, the batch run is submitted to the 1110 operating system right then. A message is returned by the 1110 system indicating the run identifier and whether or not the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS Master program and any ATS function can be requested at that time.

4.2.2.4.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, OWN=P or OW=P will be accepted.

A report (selection category) must be selected and at least one combination entered or no batch job will be submitted.

This function must be used with care. There is a potential for processing large volumes of output.

The output of the batch job requires a 132 print position line. If the user's printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

The tape(s) specified must be standard UNIVAC-labelled tape(s). The 'F' option is used to allow reuse of the tape(s) at a later time with a minimum of difficulty.

4.2.2.4.4 SAMPLE INTERACTIVE SESSION

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175       TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS,ATS
FURPUR 0028-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:15:37

NADB-STE-INX DISABLED--CONTINUING
NADB-PARMFL  DISABLED--CONTINUING
ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                      (N, RB)
    AS   - AREA SOURCE                       (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY          (N, RB)
    ES . - EMISSIONS SUMMARY REPORT          (N, RB)
    PO   - POLLUTANT NAMES                   (S, I)
    QS   - QUARTERLY SUMMARIES               (S, I)
    SI   - SITE DESCRIPTIONS                 (S, I)
    UN   - UNIT TABLE                        (S, I)
    YS   - YEARLY SUMMARIES                  (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
PS
ENTER YOUR USER PROJECT CODE.
PROJ?
USER
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
REMOTE
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT #?
99999999

EMISSION POINT SOURCE LISTING

THE POINT SOURCE LISTING PROGRAM OFFERS THE USER REMOTE BATCH
ACCESS TO POINT SOURCE LISTINGS. THE AMOUNT OF INFORMATION THAT
WILL BE PRINTED IS REFLECTED BY THE REPORT NAME. CARE SHOULD BE
TAKEN TO ENSURE THAT AN EXCESSIVE AMOUNT OF PRINT IS NOT GENERATED.
```

```
THE CONDENSED POINT SOURCE LISTING GIVES 7 LINES PER SCC AND THE
FULL POINT SOURCE LISTING GIVES A PAGE OF PRINT PER SCC.
IF YOU NEED A LISTING OF THE VALID COMMANDS, ENTER YES. OTHERWISE
ENTER NO.
YES OR NO?

YES

VALID COMMANDS ARE:
'REPORT=?' - REPORT WANTED.  ?   REPRESENTS THE NUMBER OF THE
             REPORT WANTED. THE NUMBERS & CORRESPONDING REPORTS ARE:
              1 - STATE REPORT(LIMITED TO 1 STATE)
              2 - STATE/COUNTY REPORT
              3 - STATE/COUNTY/PLANT REPORT
              4 - STATE/COUNTY/PLANT/POINT REPORT
              5 - STATE/SCC REPORT
              6 - STATE/COUNTY/SCC REPORT
'OWN=?'    - OWNERSHIP CODE. THE VALID CODES ARE:
              P - PRIVATE
              L - LOCAL GOVERNMENT
              S - STATE GOVERNMENT
              F - FEDERAL GOVERNMENT
              U - UTILITY
'SIC=????' - STANDARD INDUSTRIAL CLASSIFICATION CODE. (SEF
             STANDARD INDUSTRIAL CLASSIFICATION MANUAL)
'EST=?'    - METHOD OF ESTIMATING EMISSIONS. THE VALID CODES ARE:
              0 - NOT APPLICARLE
              1 - STACK TESTS OR OTHER EMISSION MEASUREMENTS
              2 - MATERIAL BALANCE
              3 - EMISSIONS CALCULATED USING EMISSION FACTORS
              4 - GUESS
              5 - EMISSION FACTOR USED TO CALCULATE
                  DIFFERS FROM OFFICIAL EPA FACTOR
'END'      - SIGNALS END OF REQUEST SPECIFICATIONS
THE ENTIRE COMMAND CAN BE ENTERED OR THE COMMAND CAN BE ARHREVIATED
TO THE FIRST TWO LETTERS OF THE COMMAND. FOR EXAMPLE, REPORT=1 &
RE=1 BOTH INDICATE A STATE REPORT IS DESIRED.

DO YOU WANT A FULL OR CONDENSED POINT SOURCE REPORT?
FL OR CN?

FL

RECORDS SELECTED CAN BE LIMITED TO THOSE FOR WHICH A SPECIFIED
POLLUTANT VALUE IS GREATER THAN A USER SPECIFIED MINIMUM
DO YOU WISH TO SPECIFY A POLLUTANT AND MINIMUM VALUE?
YES OR NO?

YES

IF YOU NEED A LISTING OF VALID POLLUTANT CODES ENTER, YES.
OTHERWISE ENTER NO.

YES

VALID POLLUTANT CODES ARE:  1 - PARTICULATE
                            2 - SULFUR DIOXIDE
                            3 - NITROGEN OXIDE
                            4 - HYDROCARBONS
```

```
                                5 - CARBON MONOXIDE
ENTER: POLL.VALUE
1.000000

THE STANDARD SORT SEQUENCE IS BY STATE COUNTY PLANT POINT SCC.
DO YOU WANT STANDARD SORT SEQUENCE OR A SPECIAL SORT SEQUENCE?
ST OR SP?

SP

IF YOU NEED A LIST OF VALID SORT OPTIONS, ENTER YES.
OTHERWISE ENTER NO.
YES OR NO?

YES

VALID SORT SEQUENCE COMMAND IS:
??.??.??....?? -  A MAXIMUM OF TWENTY SORT OPTIONS ARE
                  AVAILABLE. CHOOSE THE SORT SEQUENCE
                  DESIRED FROM THE TABLE BELOW AND
                  ENTER THE CORRESPONDING SERIES OF 2
                  DIGIT CODES IN THE ORDER DESIRED.
                   01 - STATE
                   02 - COUNTY
                   03 - PLANT NUMBER
                   04 - POINT NUMBER
                   05 - SCC(SOURCE CLASSIFICATION CODE)
                   06 - OWNERSHIP
                   07 - SIC(STANDARD INDUSTRIAL CLASS)
                   08 - ESTIMATION METHOD
                   09 - AQCR
                   10 - PLANT NAME
                   11 - POLLUTANT VALUE
                   12 - YEAR OF RECORD
                   13 - CONTROL EQUIPMENT
                   14 - CONTROL EFFICIENCY
                   15 - SULFUR CONTENT
                   16 - ASH CONTENT
                   17 - CITY
                   18 - UTM COORDINATES
                   19 - OPERATING RATE
                   20 - CONFIDENTALITY
'END'            - SIGNALS END OF USER SPECIFICATIONS
                   FOR THIS  FUNCTION.

ENTER SORT SEQUENCE COMMAND
SORT?

01.02.03.05

SORT ENTERED= 01 02 03 05

(X.OR END?)

END

DO YOU WANT CONFIDENTIAL DATA?
YES OR NO?
```

```
NO
DO YOU WANT TO SPECIFY SIGNIFICANT DIGITS?  (STANDARD IS 3)
YES OR NO?

YES
NUMBER?

4
 DO YOU WANT METRIC UNITS? (STANDARD IS ENGL)
NO
ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

99USER

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RC=4

ENTER 12 CHARACTER STATE/COUNTY/PLANT/POINT CODE.X. OR END

SCPP.X. OR END?

042600000520

STATE/COUNTY/PLANT/POINT=042600000520

SCPP.X. OR END?

053520001203

STATE/COUNTY/PLANT/POINT=053520001203

SCPP.X. OR END?

END

COMMAND?

END

JOB AS SPECIFIED IS:
REPORT TYPE=04

CONTROL CARDS ENTERED-

ST CNTY PLNT PT SCC          O SIC  E
```

```
04 2600 0005 20

05 3520 0012 03

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?

YES


*TM*99USER RUN ID 99USER 79999999 USER  ACCEPTED
PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
PS

EMISSION POINT SOURCE LISTING

THE POINT SOURCE LISTING PROGRAM OFFERS THE USER REMOTE BATCH
ACCESS TO POINT SOURCE LISTINGS. THE AMOUNT OF INFORMATION THAT
WILL BE PRINTED IS REFLECTED BY THE REPORT NAME. CARE SHOULD BE
TAKEN TO ENSURE THAT AN EXCESSIVE AMOUNT OF PRINT IS NOT GENERATED.
THE CONDENSED POINT SOURCE LISTING GIVES 7 LINES PER SCC AND THE
FULL POINT SOURCE LISTING GIVES A PAGE OF PRINT PER SCC.
IF YOU NEED A LISTING OF THE VALID COMMANDS, ENTER YES. OTHERWISE
ENTER NO.
YES OR NO?

NO

DO YOU WANT A FULL OR CONDENSED POINT SOURCE REPORT?
FL OR CN?

CN

RECORDS SELECTED CAN BE LIMITED TO THOSE FOR WHICH A SPECIFIED
POLLUTANT VALUE IS GREATER THAN A USER SPECIFIED MINIMUM
DO YOU WISH TO SPECIFY A POLLUTANT AND MINIMUM VALUE?
YES OR NO?

NO

THE STANDARD SORT SEQUENCE IS BY STATE COUNTY PLANT POINT SCC.
DO YOU WANT STANDARD SORT SEQUENCE OR A SPECIAL SORT SEQUENCE?
ST OR SP?

ST

DO YOU WANT CONFIDENTIAL DATA?
YES OR NO?

NO
DO YOU WANT TO SPECIFY SIGNIFICANT DIGITS?  (STANDARD IS 3)
YES OR NO?

NO
DO YOU WANT METRIC UNITS? (STANDARD IS ENGL)
```

```
NO
ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

99user

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RE=3

ENTER 10 CHARACTER STATE/COUNTY/PLANT CODE,X, OR END

SCP,X, OR END?

0426000005

STATE/COUNTY/PLANT=0426000005

SCP,X, OR END?

0535200012

STATE/COUNTY/PLANT=0535200012

SCP,X, OR END?

EN

COMMAND?

EN

JOB AS SPECIFIED IS:
REPORT TYPE=03

CONTROL CARDS ENTERED-

ST CNTY PLNT PT SCC          O SIC  E

04 2600 0005

05 3520 0012

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?

YES
```

```
*TM* 99USER RUN ID 99USES 99999999 USER  ACCEPTED
PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
EN

END SESSION
```

4.2.2.4.5 SAMPLE BATCH OUTPUT

Two samples of the output produced by the remote batch runs follow. The first example shows the output for the full point source for two state-county-plant-point combinations 04-2600-0005-20 and 05-3520-0012-03. The default sort sequence was used, metric units were requested, and four significant digits were printed.

4.2.2.4.5.1 FULL POINT SOURCE EXAMPLE

```
@ADD,P       CDATA
POLLUTANT SELECTED IS PARTICULATE     ALL VALUES GREATER THAN OR EQUAL TO       0 WILL BE INCLUDED

THE SORT SPECIFIED IS:
 1 STATE
 2 COUNTY
 3 PLANT
 4 POINT
 5 SCC


REPORT WILL BE IN METRIC UNITS
 6 SIGNIFICANT DIGITS WILL BE WRITTEN.
```

```
                    CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN
                    DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA.    TO OBTAIN THIS
                    INFORMATION  A  DIFFERENT  REQUEST  IS  NEEDED  USING  THE CODE SUPPLIED TO THE
                    REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.
USER IS CONTROLING SPACE ALLOCATION

REQUEST !04!20W!!U!U!F!20! !  !   ! ! !   ! !  !          1 RECORDS WERE SELECTED
REQUEST !05!352U!U0L?!03! !  !   ! ! !   ! !  !          2 RECORDS WERE SELECTED

TOTAL RECORDS SELECTED WAS          3
```

```
CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN
DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA.     TO OBTAIN THIS
INFORMATION  A  DIFFERENT  REQUEST  IS  NEEDED  USING  THE CODE SUPPLIED TO THE
REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.
```

```
FILE UPDATED ON WEDNESDAY SEPTEMBER 17, 1975                                                                               PAGE     1

                                    N A T I O N A L   E M I S S I O N   D A T A   S Y S T E M

                                                 P O I N T   S O U R C E   L I S T I N G

STATE(04): ARKANSAS          AQCR(019): MONROE-EL DORADO                                          CITY(0780): EL DORADO
COUNTY(2600): UNION CO                          PLANT ID: 0005  POINT ID: 20

NAME-ADDRESS: LION OIL CO. EL DORADO               71730    SIC(2911): PETROLEUM REFINING
PERSONAL CONTACT: L. DAVIES      SCC(3-06-001-02): INDUSTRIAL PROCES -PETROLEUM INDRY  -PROCESS HEATER    -GAS

---------------------------------------------------------------------------------------------------------------------------
! GENERAL INFORMATION  ! UTM GRID COORDINATES           ! HAND CALCULATED EMISSION ESTIMATES     ! ALLOWABLE EMISSIONS              !
! ******************** ! ************************       ! ************************************   ! *******************              !
! YEAR OF RECORD: 1973 !          UTM ZONE: 15          ! PARTICULATE:          5 TONS/YR        !   PARTICULATE:         0 TONS/YR !
!                      !                                !         SOX:          0 TONS/YR        !           SOX:         1 TONS/YR !
! OWNERSHIP: PRIVATE   !       HORIZONTAL:           KM !         NOX:         58 TONS/YR        !           NOX:         0 TONS/YR !
!                      !         VERTICAL:           KM !          HC:          4 TONS/YR        !            HC:         0 TONS/YR !
! IPP PROCESS: NO      !--------------------------------!          CO:          0 TONS/YR        !            CO:         1 TONS/YR !
!                      ! STACK PARAMETERS               !----------------------------------------!----------------------------------!
! SOURCE: COMBUSTION   ! ******************             ! EMISSION ESTIMATION METHODS            ! COMPUTER CALCULATED EMISSIONS    !
!                      ! STACK HEIGHT:          50 FT   ! ****************************           ! ******************************** !
!                      ! STACK DIAMETER:       2.0 FT   ! PART: EMISSION FACTOR(AP-42 OR PENDING)!      PART:      <1      TONS/YR   !
!                      ! GAS TEMPERATURE:      983 F    !  SOX: EMISSION FACTOR(AP-42 OR PENDING)!----------------------------------!
! NORMAL OPERATIONS    ! GAS FLOW RATE:    17.610 ACFM  !  NOX: EMISSION FACTOR(AP-42 OR PENDING)!       SOX:              TONS/YR   !
! ******************** ! PLUME HT(NO STACK):     0 FT   !   HC: EMISSION FACTOR(AP-42 OR PENDING)!----------------------------------!
!     HOURS/DAY: 24    ! SAME STACK VENTS POINTS   -    !   CO: EMISSION FACTOR(AP-42 OR PENDING)!       NOX:      <1      TONS/YR   !
!      DAYS/WEEK: 7    !-----------------------------------------------------------------------!----------------------------------!
!     WEEKS/YEAR: 52   ! CONTROL DEVICE/METHOD IDENTIFICATION                   ! CONTROL       !        HC:      <1      TONS/YR   !
!                      ! **********************************************         ! EFFICIENCIES  !----------------------------------!
! % ANNUAL THROUGHPUT  ! PRIMARY PART: NO CONTROL EQUIPMENT                     ! ************  !        CO:              TONS/YR   !
! ******************** ! SECOND. PART: NO CONTROL EQUIPMENT                     ! PART: 00.0 %  !----------------------------------!
!       DEC-FEB: 25 %  !                                                        !               !                                  !
!       MAR-MAY: 25 %  !  PRIMARY SOX: NO CONTROL EQUIPMENT                     !---------------!----------------------------------!
!      JUNE-AUG: 25 %  !  SECOND. SOX: NO CONTROL EQUIPMENT                     !  SOX: 00.0 %  !                                  !
!      SEPT-NOV: 25 %  !                                                        !---------------!----------------------------------!
!                      !  PRIMARY NOX: NO CONTROL EQUIPMENT                     !               !                                  !
! % SPACE HEAT: 00.0 % !  SECOND. NOX: NO CONTROL EQUIPMENT                     !  NOX: 00.0 %  !----------------------------------!
!                      !                                                        !               !                                  !
! COMPLIANCE INFO      !   PRIMARY HC: NO CONTROL EQUIPMENT                     !---------------!----------------------------------!
! ***************      !   SECOND. HC: NO CONTROL EQUIPMENT                     !   HC: 00.0 %  !                                  !
! STATUS UNKNOWN       !                                                        !---------------!----------------------------------!
!                      !   PRIMARY CO: NO CONTROL EQUIPMENT                     !               !                                  !
! SCHEDULED            !   SECOND. CO: NO CONTROL EQUIPMENT                     !   CO: 00.0 %  !----------------------------------!
! COMPLNCE DATE:   /   !--------------------------------------------------------------------------!                                  !
!                      ! FUEL CHARACTERISTICS                   ! OPERATING RATES                 !----------------------------------!
! COMPLIANCE STATUS    ! ********************                   ! ***************                                                    !
! UPDATE:        / /   !                                        !    ANNUAL OPERATING RATE:      504 1000 CUBIC FEET GAS BURNED      !
!                      !                                        !                                                                    !
! EMERGENCY CONTROL    ! FUEL SULFUR CONTENT: 0.00 %            !  HOURLY MAXM DESIGN RATE:                                          !
! ACTION PLAN          !                                        !                                                                    !
! ******************** !    FUEL ASH CONTENT: 00.0 %            !   BOILER DESIGN CAPACITY:                                          !
! NOT REQUIRED         !                                        !--------------------------------------------------------------------!
!                      !   FUEL HEAT CONTENT:  1.376 MILLION BTU/1000 CUBIC FEET GAS BURNE       COMMENTS: HEATER NO. 2A             !
---------------------------------------------------------------------------------------------------------------------------
```

```
FILE CREATED ON WEDNESDAY SEPTEMBER 17, 1975                                                    PAGE    2
---------------------------N A T I O N A L   E M I S S I O N   D A T A   S Y S T E M----------------------
                                  P O I N T   S O U R C E   L I S T I N G -------------------------------
STATE(05): CALIFORNIA      AQCR(031): SAN JOAQUIN VALLEY                      CITY(3100): HANFORD
COUNTY(0520): KINGS CO                    PLANT ID: 0017  POINT ID: 03
---------------------------------------------------------------------------------------------------------
NAME-ADDRESS: BEACON OIL CO.,[illegible] W [illegible] ST  HANFORD93230  SIC(2911): PETROLEUM REFINING
PERSONAL CONTACT: MR STEVENSON  SCC(3-06-001-01): INDUSTRIAL PROCES -PETROLEUM INDRY  -PROCESS HEATER  -OIL
---------------------------------------------------------------------------------------------------------
! GENERAL INFORMATION  ! UTM GRID COORDINATES         ! HAND CALCULATED EMISSION ESTIMATES  ! ALLOWABLE EMISSIONS             !
! ******************** ! ***************************  ! *********************************** ! ************************        !
! YEAR OF RECORD: 1974 !       UTM ZONE: 11           ! PARTICULATE:         31 TONS/YR     !   PARTICULATE:          TONS/YR !
!                      !                              !         SOX:        140 TONS/YR     !           SOX:          TONS/YR !
! OWNERSHIP: PRIVATE   !       HORIZONTAL:   261.3 KM !         NOX:        100 TONS/YR     !           NOX:          TONS/YR !
!                      !         VERTICAL: 4,072.6 KM !          HC:          5 TONS/YR     !            HC:          TONS/YR !
! IPP PROCESS: 08      !------------------------------!          CO:          0 TONS/YR     !            CO:          TONS/YR !
!                      ! STACK PARAMETERS             !-------------------------------------!---------------------------------!
! SOURCE: COMBUSTION   ! *****************            ! EMISSION ESTIMATION METHODS         ! COMPUTER CALCULATED EMISSIONS   !
!                      ! STACK HEIGHT:             FT ! ********************************    ! ******************************* !
!                      ! STACK DIAMETER:           FT ! PART: EMISSION FACTOR(AP-42 OR PENDING) !   PART:    1.547   TONS/YR  !
!                      ! GAS TEMPERATURE:          F  !  SOX: EMISSION FACTOR(AP-42 OR PENDING) !                             !
! NORMAL OPERATIONS    ! GAS FLOW RATE:          ACFM !  NOX: EMISSION FACTOR(AP-42 OR PENDING) !    SOX:    7.177   TONS/YR  !
! ******************** ! PLUME WTING STACKS:       FT !   HC: EMISSION FACTOR(AP-42 OR PENDING) !                             !
!       HOURS/DAY: 24  ! SAME STACK VENTS POINTS   -  !   CO: NOT APPLICABLE                !    NOX:    5.340   TONS/YR      !
!        DAYS/WEEK: 7  !--------------------------------------------------------------------!---------------------------------!
!      WEEKS/YEAR: 52  ! CONTROL DEVICE/METHOD IDENTIFICATION             ! CONTROL          !     HC:     .250   TONS/YR     !
!                      ! ************************************             ! EFFICIENCIES     !---------------------------------!
! % ANNUAL THROUGHPUT  ! PRIMARY PART: NO CONTROL EQUIPMENT               ! ************     !     CO:            TONS/YR     !
! ******************** ! SECOND. PART: NO CONTROL EQUIPMENT               ! PART: 00.0 %     !---------------------------------!
!       DEC-FEB: 25 %  !                                                  !                  !                                 !
!       MAR-MAY: 25 %  !  PRIMARY SOX: NO CONTROL EQUIPMENT               !------------------!---------------------------------!
!      JUNE-AUG: 25 %  !  SECOND. SOX: NO CONTROL EQUIPMENT               !  SOX: 00.0 %     !                                 !
!      SEPT-NOV: 25 %  !                                                  !------------------!---------------------------------!
!                      !  PRIMARY NOX: NO CONTROL EQUIPMENT               !                  !                                 !
! % SPACE HEAT: 00.0 % !  SECOND. NOX: NO CONTROL EQUIPMENT               !  NOX: 00.0 %     !---------------------------------!
!                      !                                                  !                  !                                 !
! COMPLIANCE INFO      !   PRIMARY HC: NO CONTROL EQUIPMENT               !------------------!---------------------------------!
! ***************      !   SECOND. HC: NO CONTROL EQUIPMENT               !   HC: 00.0 %     !                                 !
! VARIANCE ISSUED      !                                                  !------------------!---------------------------------!
!                      !   PRIMARY CO: NO CONTROL EQUIPMENT               !                  !                                 !
! SCHEDULED            !   SECOND. CO: NO CONTROL EQUIPMENT               !   CO: 00.0 %     !---------------------------------!
! COMPLNCE DATE: 07/75 !-----------------------------------------------------------------------!                                 !
!                      ! FUEL CHARACTERISTICS               ! OPERATING RATES                  !---------------------------------!
! COMPLIANCE STATUS    ! *********************              ! ***************                                                    !
! UPDATE:    15/04/74  !                                    !    ANNUAL OPERATING RATE:    3.683 1000 BARRELS OIL BURNED         !
!                      !                                    !                                                                    !
! EMERGENCY CONTROL    ! FUEL SULFUR CONTENT: 0.58 %        !  HOURLY MAXM DESIGN RATE:    63.000 1000 BARRELS OIL BURNED        !
! ACTION PLAN          !                                    !                                                                    !
! ****************     !    FUEL ASH CONTENT:      %        !   BOILER DESIGN CAPACITY:                                          !
! STATUS UNKNOWN       !                                    !--------------------------------------------------------------------!
!                      !   FUEL HEAT CONTENT:    150 MILLION BTU/1000 BARRELS OIL BURNED        COMMENTS: 7 PROC.HTRS OIL        !
---------------------------------------------------------------------------------------------------------------------------------
```

```
FILE CREATED ON WEDNESDAY SEPTEMBER 17, 1975                                                                                    PAGE    3
 ------------------------------------------N A T I O N A L   E M I S S I O N   D A T A   S Y S T E M----------------------------------
                                                 P O I N T   S O U R C E   L I S T I N G
STATE(05): CALIFORNIA        AQCR(031): SAN JOAQUIN VALLEY                                    CITY(31000): HANFORD
COUNTY(3140): KINGS CO                           PLANT ID: 0012  POINT ID: 03
 --------------------------------------------------------------------------------------------------------------------------------------
NAME-ADDRESS: BEACON OIL CO.,525 W 3RD ST  HANFORD93230  SIC(2911): PETROLEUM REFINING
PERSONAL CONTACT: MC STEVENSON  SCC(3-06-004-02): INDUSTRIAL PROCES -PETROLEUM INDRY   -PROCESS HEATER    -GAS
 --------------------------------------------------------------------------------------------------------------------------------------
! GENERAL INFORMATION  ! UTM GRID COORDINATES         ! HAND CALCULATED EMISSION ESTIMATES     ! ALLOWABLE EMISSIONS                  !
! ******************** ! ******************** ------- ! ********************************       ! ********************                 !
! YEAR OF RECORD: 1974 !        UTM ZONE: 11          ! PARTICULATE:        31 TONS/YR         !    PARTICULATE:              TONS/YR !
!                      !                              !         SOX:       140 TONS/YR         !            SOX:              TONS/YR !
! OWNERSHIP: PRIVATE   !      HORIZONTAL:   251.7 KM  !         NOX:       140 TONS/YR         !            NOX:              TONS/YR !
!                      !        VERTICAL: 4,022.6 KM  !          HC:         5 TONS/YR         !             HC:              TONS/YR !
! IPP PROCESS: NO      !------------------------------!          CO:         0 TONS/YR         !             CO:              TONS/YR !
!                      ! STACK PARAMETERS             !----------------------------------------!--------------------------------------!
! SOURCE: COMBUSTION   ! ****************             ! EMISSION ESTIMATION METHODS            ! COMPUTER CALCULATED EMISSIONS        !
!                      ! STACK HEIGHT:           FT   ! *************************              ! *****************************        !
!                      ! STACK DIAMETER:         FT   ! PART: EMISSION FACTOR(AP-42 OR PENDING)!      PART:         1       TONS/YR !
!                      ! GAS TEMPERATURE:        F    !  SOX: EMISSION FACTOR(AP-42 OR PENDING)!                                      !
! NORMAL OPERATIONS    ! GAS FLOW RATE:          ACFM !  NOX: EMISSION FACTOR(AP-42 OR PENDING)!       SOX:                 TONS/YR !
! ******************** ! PLUME HT AND STACK):    FT.  !   HC: EMISSION FACTOR(AP-42 OR PENDING)!--------------------------------------!
!      HOURS/DAY: 24   ! SAME STACK VENTS (OTHERS  -  !   CO: NOT APPLICABLE                   !       NOX:        14       TONS/YR !
!      DAYS/WEEK: 7    !---------------------------------------------------------------------- !--------------------------------------!
!     WEEKS/YEAR: 52   ! CONTROL DEVICE/METHOD IDENTIFICATION                  ! CONTROL        !        HC:         2       TONS/YR !
!                      ! ***************************************               ! EFFICIENCIES   !                                      !
! % ANNUAL THROUGHPUT  ! PRIMARY PART: NO CONTROL EQUIPMENT                    ! ************** !        CO:                  TONS/YR !
! ******************** ! SECOND. PART: NO CONTROL EQUIPMENT                    ! PART: 00.0 %   !--------------------------------------!
!      DEC-FEB: 25 %   !                                                       !                !                                      !
!      MAR-MAY: 25 %   !  PRIMARY SOX: NO CONTROL EQUIPMENT                    !                !                                      !
!     JUNE-AUG: 25 %   !  SECOND. SOX: NO CONTROL EQUIPMENT                    !  SOX: 00.0 %   !                                      !
!     SEPT-NOV: 25 %   !                                                       !                !                                      !
!                      !  PRIMARY NOX: NO CONTROL EQUIPMENT                    !                !                                      !
! % SPACE HEAT: 00.0 % !  SECOND. NOX: NO CONTROL EQUIPMENT                    !  NOX: 00.0 %   !--------------------------------------!
!                      !                                                       !                !                                      !
! COMPLIANCE INFO      !   PRIMARY HC: NO CONTROL EQUIPMENT                    !                !                                      !
! ****************     !   SECOND. HC: NO CONTROL EQUIPMENT                    !   HC: 00.0 %   !                                      !
! VARIANCE ISSUED      !                                                       !                !                                      !
!                      !   PRIMARY CO: NO CONTROL EQUIPMENT                    !                !                                      !
! SCHEDULE             !   SECOND. CO: NO CONTROL EQUIPMENT                    !   CO: 00.0 %   !--------------------------------------!
! COMPLNCE DATE: 01/75 !-------------------------------------------------------------------------!                                      !
!                      ! FUEL CHARACTERISTICS                ! OPERATING RATES                   !--------------------------------------!
! COMPLIANCE STATUS    ! ********************                ! ***************                                                          !
! UPDATE:     15/04/74 !                                     !    ANNUAL OPERATING RATE:    123,800 1000 CUBIC FEET GAS BURNED         !
!                      !                                     !                                                                          !
! EMERGENCY CONTROL    ! FUEL SULFUR CONTENT: 0.00 %         ! HOURLY MAXM DESIGN RATE:      14.130 1000 CUBIC FEET GAS BURNED          !
! ACTION PLAN          !                                     !                                                                          !
! ******************   !   FUEL ASH CONTENT:     %           !   BOILER DESIGN CAPACITY:                                                !
! STATUS UNKNOWN       !                                     !--------------------------------------------------------------------------!
!                      !  FUEL HEAT CONTENT:  1,050 MILLION BTU/1000 CUBIC FEET GAS BURNE        COMMENTS:  (15% NAT.GAS USED)     !
 --------------------------------------------------------------------------------------------------------------------------------------
```

4.2.2.4.5.2 CONDENSED POINT SOURCE EXAMPLE

```
BADD,P        CDATA
POLLUTANT SELECTED IS PARTICULATE     ALL VALUES GREATER THAN OR EQUAL TO        0 WILL BE INCLUDED

THE SORT SPECIFIED IS:

 1 STATE

 2 COUNTY

 3 PLANT

 4 POINT

 5 SCC


 3 SIGNIFICANT DIGITS WILL BE WRITTEN.
```

```
                         CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN
                         DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA.     TO OBTAIN THIS
                         INFORMATION  A  DIFFERENT  REQUEST  IS  NEEDED  USING  THE CODE SUPPLIED TO THE
                         REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.
 MAXIMUM NUMBER OF SELECTIONS ALLOWED IS       6000
REQUEST !04!2600!0005!  ! !  !   ! ! !   ! !   !          33 RECORDS WERE SELECTED
REQUEST !05!3520!0012!  ! !  !   ! ! !   ! !   !          11 RECORDS WERE SELECTED

TOTAL RECORDS SELECTED WAS         44
```

```
CERTAIN PROCESS INFORMATION HAS BEEN OMITTED FROM THOSE SOURCES WHICH HAVE BEEN
DESIGNATED CONFIDENTIAL BY THE SUBMITTING AGENCY OR THE EPA.     TO OBTAIN THIS
INFORMATION  A  DIFFERENT  REQUEST  IS  NEEDED  USING  THE CODE SUPPLIED TO THE
REGIONAL CONTACTS BY THE NATIONAL AIR DATA BRANCH.
```

```
FILE CREATED ON  SATURDAY   OCTOBER 18, 1975                                                      PAGE   1
                                N A T I O N A L   E M I S S I O N S   D A T A   S Y S T E M

                                        CONDENSED POINT SOURCE LISTING FOR PARTICULATE
                                              FOR ALL VALUES > THAN OR = TO          0
                                              EMISSIONS ARE IN SHORT TONS

                                                                                  PART      S O X      N O X      H C       C O
0005: LION OIL CO, EL DORADO ----------- 700016 ----------- OWNERSHIP: PRIVATE ---- 4 ------ 129 ------- 16 ------- <1 ------- 1
04: ARKANSAS          2600: UNION                             YEAR OF RECORD:  1969
019: MONROE-EL DORADO
000: NO CONTROL EQUIPMENT                             EFF =  0.0 %  POINT: 01
ESTIMATE BY (3) USED EMISSIONS FACTORS       SIC = 2911  SCC = 1-02-005-02

0005: LION OIL CO, EL DORADO             700016             OWNERSHIP: PRIVATE ---- 2 ------ <1 -------- 36 ------- <1 ------- 3
04: ARKANSAS          2600: UNION                             YEAR OF RECORD:  1969
019: MONROE-EL DORADO
000: NO CONTROL EQUIPMENT                             EFF =  0.0 %  POINT: 01
ESTIMATE BY (3) USED EMISSIONS FACTORS       SIC = 2911  SCC = 1-02-006-02

0005: LION OIL CO, EL DORADO ----------- 700016 ----------- OWNERSHIP: PRIVATE ---- 4 ------ 129 ------- 16 ------- <1 ------- 1
04: ARKANSAS          2600: UNION                             YEAR OF RECORD:  1969
019: MONROL-EL DORADO
000: NO CONTROL EQUIPMENT                             EFF =  0.0 %  POINT: 02
ESTIMATE BY (3) USED EMISSIONS FACTORS       SIC = 2911  SCC = 1-02-005-02

0005: LION OIL CO, EL DORADO             700016 ----------- OWNERSHIP: PRIVATE ---- 2 ------ <1 -------- 36 ------- <1 ------- 3
04: ARKANSAS          2600: UNION                             YEAR OF RECORD:  1969
019: MONROE-EL DORADO
000: NO CONTROL EQUIPMENT                             EFF =  0.0 %  POINT: 02
ESTIMATE BY (3) USED EMISSIONS FACTORS       SIC = 2911  SCC = 1-02-006-02

0005: LION OIL CO, EL DORADO ----------- 700016 ----------- OWNERSHIP: PRIVATE ---- 4 ------ 129 ------- 16 ------- <1 ------- 1
04: ARKANSAS          2600: UNION                             YEAR OF RECORD:  1969
019: MONROE-EL DORADO
000: NO CONTROL EQUIPMENT                             EFF =  0.0 %  POINT: 03
ESTIMATE BY (3) USED EMISSIONS FACTORS       SIC = 2911  SCC = 1-02-005-02

0005: LION OIL CO, EL DORADO ----------- 700016 ----------- OWNERSHIP: PRIVATE ---- 2 ------ <1 -------- 36 ------- <1 ------- 3
04: ARKANSAS          2600: UNION                             YEAR OF RECORD:  1973
019: MONROE-EL DORADO
000: NO CONTROL EQUIPMENT                             EFF =  0.0 %  POINT: 03
ESTIMATE BY (3) USED EMISSIONS FACTORS       SIC = 2911  SCC = 1-02-006-02

0005: LION OIL CO, EL DORADO             700016             OWNERSHIP: PRIVATE --- <1 ------ 2 --------- 2 -------- <1 ------ <1
04: ARKANSAS          2600: UNION                             YEAR OF RECORD:  1969
019: MONROE-EL DORADO
000: NO CONTROL EQUIPMENT                             EFF =  0.0 %  POINT: 04
ESTIMATE BY (3) USED EMISSIONS FACTORS       SIC = 2911  SCC = 1-02-005-02

CONTROL EQUIPMENT AND EFFICIENCIES ARE FOR THE SELECTED POLLUTANT
```

4.2.2.5 NEDS AREA SOURCE LISTING (N,RB,AS)

4.2.2.5.0 DESCRIPTION

The area source function is a NEDS remote batch function that allows the user to retrieve the most detailed information available on an area basis. The user is allowed to retrieve listings on a state, EPA region or a state-county basis. Two area sources can be printed per page, but the user should exercise caution when making state or regional requests because large volumes of output may result.

4.2.2.5.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run and is requested within the batch function. The variable information is run identifier, priority code, and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCC assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers, but it is not recommended because tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classify runs and enable the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and number of tape or disk drives required. The disks for this remote batch function are on-line and therefore only time is to be considered. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the prompt, PRIORITY?.

The user must estimate the SUP time that will be required to complete his request. This time will vary depending upon the amount of data selected. For example, requests for less than a state, for a state, or for an AQCR would each take about 2 minutes (as of October 1975). A certain amount of trial and error is involved in estimating required times, so it is better to estimate high. A high estimate, of course, lengthens the turnaround time and affects the operating efficiency of the computer.

4.2.2.5.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The command word can be entered in its entirely or can be abbreviated to the first two characters of the word. The commands are:

	COMMAND	DESCRIPTION
i.	report=?	report selection category wanted. The options are: 1- state or EPA regional report. The retrieval is limited to one EPA region or a maximum of five states. 2- state/county report. The user can select as many state-county combinations as desired.
ii.	end	terminate function. This command following the COMMAND? prompt signals the end of user specifications for this function.

When the user selects a report category, he enters a loop that allows him to enter the specifications necessary. In the state or EPA region report loop, the user enters the desired information or request. The report prints back his entry and he can either enter END, which indicates the report specified is correct, or he can enter new specifications.

In the state-county report loop, the user enters his six character state-county combination, X, or END. The X entry causes the last six character combination entered to be ignored. END indicates that all the user combinations desired have been entered.

When the user has completed his entries for the function, END is entered after the COMMAND? prompt. A summary of the batch job constructed is printed and the user is given the opportunity to review his specifications and submit or cancel the batch run. If the user enters YES, the batch run is submitted to the 1110 operating system immediately. A message is returned by the 110 system indicating the run identifier and whether the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS master program and any ATS function can be requested at that time.

4.2.2.5.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, REPORT=1 or RE=1 are equally acceptable.

A report category must be selected and at least one combination entered or no batch job will be submitted.

The output of the batch job requires a 132-print position line. If the users' printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

Following the sample session and sample batch output, is an explanation of the area source printout.

4.2.2.5.4 SAMPLE INTERACTIVE SESSION

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175       TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:31:31

NADB-STE-INX DISABLED--CONTINUING
NADB-PAPMFL  DISABLED--CONTINUING
ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                  (N, RB)
    AS   - AREA SOURCE                   (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY      (N, RB)
    ES   - EMISSIONS SUMMARY REPORT      (N, RB)
    PO   - POLLUTANT NAMES               (S, I)
    QS   - QUARTERLY SUMMARIES           (S, I)
    SI   - SITE DESCRIPTIONS             (S, I)
    UN   - UNIT TABLE                    (S, I)
    YS   - YEARLY SUMMARIES              (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
AS
ENTER YOUR USER PROJECT CODE.
PROJ?
USER
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL !
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
92
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT #?
99999999

EMISSIONS AREA SOURCE LISTING
```

```
THIS FUNCTION ALLOWS THE USER TO REQUEST AREA SOURCE LISTINGS ON
A STATE/REGION OR A STATE-COUNTY BASIS. IF YOU NEED A LISTING OF
THE VALID COMMANDS, ENTER YES.  OTHERWISE, ENTER NO.
YES OR NO?

YES

THE VALID COMMANDS ARE:


'REPORT=?' - THE REPORT DESIRED.THE REPORT NUMBERS ARE:
              1 - STATE OR REGION REPORT. THE USER IS LIMITED
                  TO ONE REGION OR A MAXIMUM OF FIVE STATES.
              2 - STATE/COUNTY REPORT. THE USER CAN ENTER AS
                  MANY STATE/COUNTY COMBINATIONS AS DESIRED.
'END'      - SIGNALS END OF USER SPECIFICATIONS FOR THIS FUNCTION

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCAS

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

0

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

 COMMAND?

RE=2

 ENTER 6 CHARACTER STATE-COUNTY CODE, X, OR END

 SC,X,OR EN?

042600
 STATE-COUNTY=042600

 SC,X,OR EN?

053520
 STATE-COUNTY=053520

 SC,X,OR EN?

EN

 JOB AS SPECIFIED IS:
 STATE-COUNTY=042600
              053520

 DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
```

```
YES OR NO?
YES
*TM*05CCAS RUN ID 05CCAS [redacted] [redacted]  ACCEPTED
CHOOSE NEXT FUNCTION YOU WISH TO ACCESS
FUNCTION?
EN

END SESSION
```

```
@RUN  99USER,99999999,PROJ,18,9999/9999
DATE: 102175        TIME: 171431
@ASG,A  NADB*NADB-ABS/SOS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
  1 ABS
@FREE    NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:35:38

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
AS
PROJ?
[illegible]
TERMINAL ID?
[illegible]
ACCT #?
99999999

EMISSIONS AREA SOURCE LISTING

COMMAND LIST---YES OR NO?

NO

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCAS

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RE=2

ENTER 6 CHARACTER STATE-COUNTY CODE, X, OR END

SC,X,OR EN?

042600
STATE-COUNTY=042600

SC,X,OR EN?

EN

JOB AS SPECIFIED IS:
STATE-COUNTY=042600

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
```

```
YES OR NO?
YES
*TM*05CCAS RUN ID 05CCAT [redacted] [redacted]  ACCEPTED

CHOOSE NEXT FUNCTION YOU WISH TO ACCESS
FUNCTION?
EN

END SESSION
```

4.2.2.5.5 SAMPLE BATCH OUTPUT

A sample of the output produced by the remote batch run follows. Two state-counties were requested, 04-2600 and 05-3520 (Union County, Arkansas, and Kings County, California).

```
                              SOURCE ID: A  STATE- 04  COUNTY- 2600  AQCR- 019  YEAR- 72
----------------------------------------------------------------------------------------------------------
!EM-EST-PRT(100-TONS)=        5! EM-EST-SO2(100-TONS)=        4! EM-EST-NOX(100-TONS)=       15! EM-EST-HC(100-TONS)=       23!
! EM-EST-CO(100-TONS)=      133!      % SULF-ANTH-COAL=         !      % SULF-BITUM-COAL=        !      % SULF-DIST-OIL=      0.3!
!    % SULF-RESID-OIL=      1.7!       % ASH-ANTH-COAL=         !       % ASH-BITUM-COAL=        !    RES-ANTH(10-TONS)=        0!
!   RES-BITUM(10-TONS)=       0!RES-DIS-OIL(10E4-GAL)=        4!RES-RID-OIL(10E4-GAL)=        0!RES-N-GAS(10E7-CUFT)=      208!
!   RES-WOOD(100-TONS)=      12!      CI-ANTH(10-TONS)=        0!     CI-BITUM(10-TONS)=        0!CI-DIS-OIL(10E4-GAL)=       24!
!CI-RID-OIL(10E4-GAL)=        2!   CI-N-GAS(10E7-CUFT)=       79!     CI-WOOD(100-TONS)=        0!    IND-ANTH(10-TONS)=        0!
!   IND-BITUM(10-TONS)=       0!     IND-COKE(10-TONS)=        0!IND-DIS-OIL(10E4-GAL)=        0!IND-RD-OIL(10E4-GAL)=       80!
!IND-N-GAS(10E7-CUFT)=      514!    IND-WOOD(100-TONS)=        0!IND-PR-GAS(10E7-CUFT)=        0!-------------------------------!
! RES-OS-INC(10-TONS)=      105! IND-OS-INC(100-TONS)=        7!   CI-OS-INC(100-TONS)=       14!       PART-EMS(T/YR)=  580.044!
!RES-OP-BRN(100-TONS)=       40!IND-OPN-BRN(100-TONS)=        2!  CI-OPN-BRN(100-TONS)=        4!        SO2-EMS(T/YR)=  263.723!
!GAS-LT-VEH(1000-GAL)=    26837!GAS-HVY-VEH(1000-GAL)=     1577!GAS-OFF-HWY(1000-GAL)=      595!        NOX-EMS(T/YR)= 2903.244!
!DIE-HV-VEH(1000-GAL)=     3014!DIE-OFF-HWY(10E4-GAL)=       60!  DIE-RR-LOC(10E4-GAL)=      164!         HC-EMS(T/YR)= 3215.626!
!     COUNTY-PCT(1000)=      45!          DENSITY-CODE=        5!MIL-AIRCRAFT(100-LTO)=        0!         CO-EMS(T/YR)=15708.452!
!CIV-AIRCRAFT(10-LTO)=        0!COMM-AIRCRAFT(10-LTO)=        0!    VES-BITUM(10-TONS)=        0!   NO. 6-EMS(T/YR)=    0.000!
!VES-DIS-OL(10E4-GAL)=        0!VES-RID-OIL(10E4-GAL)=        0!     VES-GAS(1000-GAL)=       30!   NO. 7-EMS(T/YR)=    0.000!
!   EVAP-SOLVENT(T/YR)=     114!    EVAP-GAS(10E5-GAL)=      239!VEH-MI-LA-RD(10E4-MI)=     8142!   NO. 8-EMS(T/YR)=    0.000!
!VEH-MI-RURL(10E4-MI)=     6558!VEH-MI-SUBAN(10E4-MI)=     3524!VEH-MI-URBAN(10E4-MI)=     8211!   NO. 9-EMS(T/YR)=    0.000!
!DIRT-RD-TRV(1000-MI)=    22471!  DIRT-AIR-STRIPS(LTO)=         !CONST-LAND(1000-ACRE)=        !NO. 10-EMS(T/YR)=     0.000!
!ROCK-H-ST(1000-TONS)=         !FOREST-FIRE-AR(ACRES)=      697!FOR-FIRE-GU(TON/ACRE)=       38!NO. 11-EMS(T/YR)=     0.000!
!SLASH-BRN-ARE(ACRES)=         !SLASH-BN-GU(TON/ACRE)=         ! ORCHARD-HEATERS(100)=         !NO. 12-EMS(T/YR)=     0.000!
!ORCH-SA-FIRES(EA/YR)=         !STRUCTURE-FIRES(#/YR)=      182!CRB-SIZE-BK(100-CUYD)=        0!-------------------------------!
! COAL-REF-BURN(#/YR)=        0!              COMMENTS=                                                                       !
----------------------------------------------------------------------------------------------------------
```

```
                                SOURCE TC: A  STATE- US  COUNTY- 3520  AQCR- 031  YEAR- 72
--------------------------------------------------------------------------------------------------------------------------
!EM-EST-PRT(100-TONS)=      34! EM-EST-SO2(100-TONS)=      1! EM-EST-NOX(100-TONS)=     34! EM-EST-HC(100-TONS)=       87!
! EM-EST-CO(100-TONS)=     277!      % SULF-ANTH-COAL=       !     % SULF-BITUM-COAL=    0.9!      % SULF-DIST-OIL=     0.2!
!     % SULF-RESID-OIL=    1.8!       % ASH-ANTH-COAL=       !      % ASH-BITUM-COAL=    7.8!    RES-ANTH(10-TONS)=       0!
!   RES-BITUM(10-TONS)=      0!RES-DIS-OIL(10E4-GAL)=       7!RES-RID-OIL(10E4-GAL)=      0!RES-N-GAS(10E7-CUFT)=     177!
!   RES-WOOD(100-TONS)=      9!     CI-ANTH(10-TONS)=       0!     CI-BITUM(10-TONS)=      0!CI-DIS-OIL(10E4-GAL)=      63!
!CI-RID-OIL(10E4-GAL)=    172!   CI-N-GAS(10E7-CUFT)=     70!    CI-WOOD(100-TONS)=      0!    IND-ANTH(10-TONS)=       0!
!   IND-BITUM(10-TONS)=      6!     IND-COKE(10-TONS)=      0!IND-DIS-OIL(10E4-GAL)=     21!IND-RD-OIL(10E4-GAL)=      26!
!IND-N-GAS(10E7-CUFT)=      5!    IND-WOOD(100-TONS)=      0!IND-PR-GAS(10E7-CUFT)=      0!------------------------------!
! RES-OS-INC(10-TONS)=    575! IND-OS-INC(100-TONS)=      2!   CI-OS-INC(100-TONS)=      3!    PART-EMS(T/YR)=  1272.177!
!RES-OP-BRN(100-TONS)=     52!IND-OPN-BRN(100-TONS)=      3!  CI-OPN-BRN(100-TONS)=      6!     SO2-EMS(T/YR)=   630.536!
!GAS-LT-VEH(1000-GAL)=  34683!GAS-HVY-VEH(1000-GAL)=   7147!GAS-OFF-HWY(1000-GAL)=   2107!     NOX-EMS(T/YR)=  4318.853!
!DIE-HV-VEH(1000-GAL)=   2277!DIE-OFF-HWY(10E4-GAL)=    304! DIE-RR-LOC(10E4-GAL)=    121!      HC-EMS(T/YR)=  7156.309!
!     COUNTY-POP(1000)=     55!        DENSITY-COEF=      5!MIL-AIRCRAFT(100-LTO)=    679!      CO-EMS(T/YR)= 32013.947!
!CIV-AIRCRAFT(10-LTO)=    241!COMM-AIRCRAFT(10-LTO)=      0!    VES-BITUM(10-TONS)=      0! NO. 6-EMS(T/YR)=     0.000!
!VES-DIS-OL(10E4-GAL)=      0!VES-RID-OIL(10E4-GAL)=      0!     VES-GAS(1000-GAL)=      0! NO. 7-EMS(T/YR)=     0.000!
!   EVAP-SOLVENT(T/YR)=    172!   EVAP-GAS(1000-GAL)=    276!VEH-MI-LA-RC(10E4-MI)=       ! NO. 8-EMS(T/YR)=     0.000!
!VEH-MI-RURL(10E4-MI)=  24000!VEH-MI-SUBAN(10E4-MI)=       !VEH-MI-URBAN(10E4-MI)=  24000! NO. 9-EMS(T/YR)=     0.000!
!DIRT-RD-TRV(1000-MI)=       ! DIRT-AIR-STRIPS(LTO)=       !CONST-LAND(1000-ACRE)=       !NO. 10-EMS(T/YR)=     0.000!
!ROCK-H-ST(1000-TONS)=       !FOREST-FIRE-AR(ACRES)=       !FOR-FIRE-SU(TON/ACRE)=       !NO. 11-EMS(T/YR)=     0.000!
!SLASH-BRN-ARE(ACRES)=       !SLASH-BN-QU(TON/ACRE)=       ! ORCHARD-HEATERS(100)=       !NO. 12-EMS(T/YR)=     0.000!
!FROST-DA-FIRE(DA/YR)=       !STRUCTURE-FIRES(#/YR)=       !CPB-SIZE-BK(100-CUYD)=      0!------------------------------!
! COAL-REF-BURN(#/YR)=      0!            COMMENTS=                                                                       !
--------------------------------------------------------------------------------------------------------------------------
```

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4.2.2.6 NEDS AREA SOURCE FUEL SUMMARY REPORT (N,RB,FS)

4.2.2.6.0 DESCRIPTION

The area source fuel usage report is a NEDS remote batch function that allows the user to retrieve information only about fuel usage compiled from the area source form. The report provides the amount of fuel used in each area within the state and a summary for the state. A sample report format is included in this section.

4.2.2.6.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run and is requested within the batch function. The variable information is run identifier, priority code, and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCC-assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers, but it is not recommended because tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classify runs and enable the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and the number of tape or disk drives required. The disks for this remote batch function are on-line and therefore only time is to be considered. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the prompt, PRIORITY?

The user must estimate the SUP time that will be required to complete his request. This time will vary depending upon the amount of data selected. For example, a request for 5 state/counties might take 1.5 minutes; a request for 1 state might require 0.5 minute (as of October 1975). A certain amount of trial and error is involved in estimating required times, so it is better to estimate high. A high estimate, of course, lengthens the turnaround time and affects the operating efficiency of the computer.

Selection	Time (minutes)
5 state/counties	1.5
1 state	.5

4.2.2.6.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. The commands are:

	COMMAND	DESCRIPTION
i.	region=??	EPA Region desired. The value must be a two digit number from 01 to 10. If the STATE command was entered previously, the state(s) requested will be ignored.
ii.	state=??,??,??,??,??	state(s) desired. A maximum of five states can be requested. If the REGION command was entered previously, the region requested will be ignored.
iii.	end	terminates function. This command, following the COMMAND? prompt, signals the end of user specifications for this function.

When the END command is entered after the COMMAND? prompt, a summary of the batch run constructed is listed. The user has the option of submitting the run as listed or cancelling it. If the user enters YES, the batch run is submitted to the 1110 operating system right then. A message is returned by the 1110 system indicating the run identifier and whether or not the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS master program and any ATS function can be requested at that time.

4.2.2.6.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, STATE=01 and ST=01 are equally acceptable.

Either a region or a state must be entered or no batch job be submitted.

The output of the batch job requires a 132 print position line. If the user's printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

4.2.2.6.4 SAMPLE INTERACTIVE SESSION

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
@ASG,A  NADB*NADB-ABS/SOS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
[illegible]TS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:38:39

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                       (N, RB)
    AS   - AREA SOURCE                        (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY           (N, RB)
    ES   - EMISSIONS SUMMARY REPORT           (N, RB)
    PO   - POLLUTANT NAMES                    (S, I)
    QS   - QUARTERLY SUMMARIES                (S, I)
    SI   - SITE DESCRIPTIONS                  (S, I)
    UN   - UNIT TABLE                         (S, I)
    YS   - YEARLY SUMMARIES                   (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
FS
ENTER YOUR USER PROJECT CODE.
PROJ?
USER
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
REMOTE
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT #?
99999999

EMISSIONS AREA SOURCE FUEL USAGE REPORT


THIS FUNCTION PROVIDES THE USER REMOTE BATCH ACCESS TO THE FUEL
SUMMARIES.  THE RETRIEVAL IS LIMITED TO A SINGLE REGION OR A
MAXIMUM OF FIVE STATES.  CARE SHOULD BE EXERCISED TO AVOID EXCESSIVE
OUTPUT.  IF YOU NEED A LIST OF THE VALID COMMANDS, ENTER YES.
OTHERWISE, ENTER NO.
YES OR NO?

YES
```

```
THE VALID COMMANDS ARE:
  REGION=??                  - THE EPA REGION DESIRED. THE VALUE MUST
                             BE A TWO DIGIT NUMBER FROM 01 TO 10. IF
                             THE STATE COMMAND WAS ENTERED PREVIOUSLY,
                             THE STATE(S) REQUESTED WILL BE IGNORED.
  STATE=??,??,??,??,??       - THE STATE(S) DESIRED. A MAXIMUM OF FIVE
                             STATES CAN BE REQUESTED. IF THE REGION
                             COMMAND WAS ENTERED PREVIOUSLY, THE REGION
                             REQUESTED WILL BE IGNORED.
  END                        - SIGNALS THE END OF USER SPECIFICATIONS
                             FOR THIS FUNCTION

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCFS

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

ST=04,05

STATE(S) WANTED=04 05

COMMAND?

EN

JOB AS SPECIFIED IS:

STATE(S)= 04 05

DO YOU WISH TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?

YES

*TY*05CCFS RUN ID 05CCFS 99999999 USER   ACCEPTED
ENTER NEXT FUNCTION YOU WISH TO ACCESS
FUNCTION?
EN

END SESSION
```

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175       TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:43:10

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
ES
 PROJ?
USER2
 TERMINAL ID?
PR
 ACCT #?
 99999999

 EMISSIONS AREA SOURCE FUEL USAGE REPORT

 COMMAND LIST---YES OR NO?

NO

 ENTER YOUR RUNID (MAX. 6 CHAR.)
 NAME?

OSCCES
 *OUTPUT INTERUPT*

 ENTER YOUR RUN PRIORITY CODE (1CHAR.)
 PRIORITY?

D

  ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
 RUN TIME?

2

  START ENTERING COMMANDS

 COMMAND?

ST=04

 STATE(S) WANTED=04


 COMMAND?

EN

 JOB AS SPECIFIED IS:

 STATE(S)= 04

 DO YOU WISH TO SUBMIT THE JOB AS SPECIFIED?
 YES OR NO?
```

```
YES
ENTER NEXT FUNCTION YOU WISH TO ACCESS

*TM*05CCFS RUN ID 05CCFT  99999999 user  ACCEPTED
FUNCTION?
END

END SESSION
```

4.2.2.6.5 SAMPLE BATCH OUTPUT

A sample of the output produced by the remote batch run follows. The States of Arkansas and California were requested.

```
                         NATIONAL EMISSIONS DATA SYSTEM (NEDS)                                        PAGE   1
                          ENVIRONMENTAL PROTECTION AGENCY                                         DATE 10/10/75

                            AREA SOURCE FUEL USAGE REPORT
                            *****************************
                                                           UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
  STATE: ARKANSAS
  *****
                                     RESIDENTIAL FUEL
                                     ****************
                   ANTH. COAL  BITUM. COAL  DIST. OIL     RESID. OIL   NAT. GAS     WOOD
                    10 TONS     10 TONS    10,000 GALS.  10,000 GALS. 10E7 CUFT   100 TONS
                   **********  *********** ************  ************ *********   ********
       ***COUNTY***
   ARKANSAS                                   4                          83          19
   ASHLEY                                     3                          59          22
   BAXTER                                     2                          24          64
   BENTON                                     [illegible]               223          69
   BOONE                                      [illegible]                74          95
   BRADLEY                                                               29          27
   CALHOUN                                                               10           3
   CARROLL                                    3                          47          65
   CHICOT                                     1                          44          21
   CLARK                                      3                          71          23
   CLAY                                      11                          56          [illegible]
   CLEBURNE                                                              19          39
   CLEVELAND                                  1                           7          10
   COLUMBIA                                                             103          18
   CONWAY                                                                55          41
   CRAIGHEAD                                 15                         228          38
   CRAWFORD                                   5                         100          22
   CRITTENDEN                                13                         125          63
   CROSS                                      6                          38          39
   DALLAS                                                                28          15
   DESHA                                                                 52          11
   DREW                                       1                          37          24
   FAULKNER                                   3                         103          30
   FRANKLIN                                   2                          37          19
   FULTON                                     8                                      64
   GARLAND                                    4                         252          29
   GRANT                                                                 38           9
   GREENE                                    11                          81          53
   HEMPSTEAD                                  1                          80          15
   HOT SPRING                                 4                          84          26
   HOWARD                                                                37          15
   INDEPENDENCE                               6                          56          73
   IZARD                                                                             61
   JACKSON                                    2                          63          31
   JEFFERSON                                  [illegible]               340          42
   JOHNSON                                    [illegible]                44          28
   LAFAYETTE                                  2                          37           8
   LAWRENCE                                   4                          43          76
   LEE                                        2                          21          53
   LINCOLN                                                               18          19
   LITTLE RIVER                                                          28           9
```

```
                                NATIONAL EMISSIONS DATA SYSTEM (NEDS)                                   PAGE   2
                                  ENVIRONMENTAL PROTECTION AGENCY                                   DATE 10/10/75

                                     AREA SOURCE FUEL USAGE REPORT
                                     *****************************
                                                                  UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975

STATE: ARKANSAS
*****
                                                  RESIDENTIAL FUEL
                                                  ****************

                      ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL   NAT. GAS     WOOD
                       10 TONS     10 TONS    10,000 GALS. 10,000 GALS. 10E7 CUFT   100 TONS
                      **********  *********** ************ ************ *********   ********

     ***COUNTY***
LOGAN                                              1                        57          34
LONOKE                                             6                        88          29
MADISON                                                                     15          59
MARION                                             2                         7          61
MILLER                                             1                        31           8
MISSISSIPPI                                       39                [illegible]         19
MONROE                                             4                        29          28
MONTGOMERY                                         2                        10          26
NEVADA                                             4                        29           7
NEWTON                                                                                  76
OUACHITA                                           1                       109          18
PERRY                                                                        6          26
PHILLIPS                                          14                        91          48
PIKE                                                                        19           7
POINSETT                                          11                        49          48
POLK                                               3                                    50
POPE                                               4                       113          43
PRAIRIE                                                                     10          36
PULASKI                                           22                      1582          56
RANDOLPH                                           7                        31          76
ST FRANCIS                                         9                        71          61
SALINE                                             6                       142          27
SCOTT                                              2                        19          28
SEARCY                                                                                 102
SEBASTIAN                                          5                       514          12
SEVIER                                                                                  14
SHARP                                                                                   45
STONE                                              2                                    49
UNION                                              4                       208          12
VAN BUREN                                          7                         9          52
WASHINGTON                                         5                       394          55
WHITE                                                                      102          75
WOODRUFF                                           7                        18          25
YELL                                               1                        40          28

    TOTAL RESIDENTIAL -                          290                      6955        2798
```

```
                                     NATIONAL EMISSIONS DATA SYSTEM (NEDS)                         PAGE   3
                                     ENVIRONMENTAL PROTECTION AGENCY                            DATE 10/10/75

                                        AREA SOURCE FUEL USAGE REPORT
                                        *****************************
                                                                 UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
   STATE: ARKANSAS
   *****
                                        COMMERCIAL AND INSTITUTIONAL
                                        ****************************

                   ANTH. COAL  BITUM. COAL  DIST. OIL     RESID. OIL    NAT. GAS     WOOD
                    10 TONS     10 TONS    10,000 GALS. 10,000 GALS. 10E7 CUFT   100 TONS
                   **********  *********** ************ ************ *********   ********
      ***COUNTY***
  ARKANSAS                                      14            1           45
  ASHLEY                                        10            1           25
  BAXTER                                        11            1           18
  BENTON                                        27            2          190
  BOONE                                         13            1           50
  BRADLEY                                        7            1           15
  CALHOUN                                        5            1            3
  CARROLL                                        7            1           35
  CHICOT                                         9            1           28
  CLARK                                         12            1           58
  CLAY                                           8            1           25
  CLEBURNE                                       7            1           12
  CLEVELAND                                      5            1            7
  COLUMBIA                                      11            1           53
  CONWAY                                        10            1           30
  CRAIGHEAD                                     32            2          212
  CRAWFORD                                      11            1           48
  CRITTENDEN                                    23            2           93
  CROSS                                          9            1           28
  DALLAS                                         7            1           15
  DESHA                                         10            1           38
  DREW                                           8            1           18
  FAULKNER                                      17            2          124
  FRANKLIN                                       6            1           20
  FULTON                                         5            1
  GARLAND                                       46            3          203
  GRANT                                          5            1           13
  GREENE                                        13            1           38
  HEMPSTEAD                                     10            1           36
  HOT SPRING                                    10            1           33
  HOWARD                                         7            1           26
  INDEPENDENCE                                  15            2           53
  IZARD                                          6            1
  JACKSON                                       13            2           38
  JEFFERSON                                     43            3          169
  JOHNSON                                        7            1           28
  LAFAYETTE                                      6            1           17
  LAWRENCE                                      16            4           23
  LEE                                            7            1           18
  LINCOLN                                        5            1           12
  LITTLE RIVER                                   6            1           10
```

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                                NATIONAL EMISSIONS DATA SYSTEM (NEDS)                        PAGE   4
                                 ENVIRONMENTAL PROTECTION AGENCY                           DATE 10/10/75

                                  AREA SOURCE FUEL USAGE REPORT
                                  *****************************
                                                               UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
  STATE: ARKANSAS
  *****
                                  COMMERCIAL AND INSTITUTIONAL
                                  ****************************

                     ANTH. COAL  BITUN. COAL  DIST. OIL    RESID. OIL   NAT. GAS    WOOD
                      10 TONS     10 TONS    10,000 GALS. 10,000 GALS. 10E7 CUFT  100 TONS
                     **********  *********** ************ ************ *********  ********
     ***COUNTY***
  LOGAN                                          8             1           58
  LONOKE                                        10             1           35
  MADISON                                        6             1           21
  MARION                                         5             1            5
  MILLER                                        21             2           68
  MISSISSIPPI                                   23             2           84
  MONROE                                         8             1           28
  MONTGOMERY                                     5             1            5
  NEVADA                                         6             1           17
  NEWTON                                         5             1
  OUACHITA                                      14             1          116
  PERRY                                          5             1            2
  PHILLIPS                                      17             2           61
  PIKE                                           6             1            7
  POINSETT                                      10             1           40
  POLK                                           8             1
  POPE                                          15             1           96
  PRAIRIE                                        5             1           12
  PULASKI                                      255            15         1112
  RANDOLPH                                       7             1           18
  ST FRANCIS                                    14             1           55
  SALINE                                        11             1           48
  SCOTT                                          5             1           12
  SEARCY                                         5             1
  SEBASTIAN                                     71             5          339
  SEVIER                                         7             1
  SHARP                                          6             1
  STONE                                          5             1
  UNION                                         24             2           79
  VAN BUREN                                      8             1            7
  WASHINGTON                                    41             2          417
  WHITE                                         10             2           88
  WOODRUFF                                       6             1           10
  YELL                                           8             1           26

      TOTAL COMMERCIAL -                      1168           112         4770
```

```
                                NATIONAL EMISSIONS DATA SYSTEM (NEDS)                                  PAGE   5
                                  ENVIRONMENTAL PROTECTION AGENCY                                  DATE 10/10/75
                                    AREA SOURCE FUEL USAGE REPORT
                                    ******************************
                                                               UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
 STATE: ARKANSAS
 *****
                                         INDUSTRIAL FUEL
                                         ***************
                    ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL  NAT. GAS     WOOD      COKE    PROCESS GAS
                     10 TONS     10 TONS   10,000 GALS. 10,000 GALS. 10E7 CUFT  100 TONS  10 TONS   10E7 CUFT
      :             **********  ********** ************ ************ *********  ********  *******  ***********
   ***COUNTY***
ARKANSAS                                                     21         238
ASHLEY                                                       55
BAXTER                                                       64           6
BENTON                                                      154         175
BOONE                                                        11          30
BRADLEY                                                       2          24
CALHOUN                                                      66           4
CARROLL                                                      31          26
CHICOT                                                        3          11
CLARK                                                        26          95
CLAY                                                          5           6
CLEBURNE                                                      2           1
CLEVELAND                                                     8          22
COLUMBIA                                                     86          73
CONWAY                                                       26
CRAIGHEAD                                                   101          87
CRAWFORD                                                     16          51
CRITTENDEN                                                   37           5
CROSS                                                        18          20
DALLAS                                                       27           7
DESHA                                                        16          16
DREW                                                         30          55
FAULKNER                                                     48          65
FRANKLIN                                                      4
FULTON                                                        6
GARLAND                                                      19
GRANT                                                         8          20
GREENE                                                       27          78
HEMPSTEAD                                                    26          51
HOT SPRING                                                  109
HOWARD                                                       47         464
INDEPENDENCE                                                 37          70
IZARD                                                         6
JACKSON                                                      39         101
JEFFERSON                                                   137         775
JOHNSON                                                      21          51
LAFAYETTE                                                     9
LAWRENCE                                                      8           6
LEE                                                           2          10
LINCOLN                                                       1           4
LITTLE RIVER                                                 19         460
```

```
                                   NATIONAL EMISSIONS DATA SYSTEM (NEDS)                                  PAGE   6
                                     ENVIRONMENTAL PROTECTION AGENCY                                      DATE 10/10/75

                                      AREA SOURCE FUEL USAGE REPORT
                                      *****************************
                                                                    UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
 STATE: ARKANSAS
 *****
                                 INDUSTRIAL FUEL
                                 ***************

                   ANTH. COAL  BITUM. COAL  DIST. OIL     RESID. OIL   NAT. GAS    WOOD       COKE    PROCESS GAS
                   10 TONS     10 TONS     10,000 GALS. 10,000 GALS. 10E7 CUFT   100 TONS   10 TONS   10E7 CUFT
                   **********  *********** ************ ************ *********   ********   *******   ***********
    ***COUNTY***
 LOGAN                                                        6         20
 LONOKE                                                      10        129
 MADISON                                                      1          1
 MARION                                                       2
 MILLER                                                      38        109
 MISSISSIPPI                                                 50          4
 MONROE                                                       4          2
 MONTGOMERY                                                   9         12
 NEVADA                                                       3         98
 NEWTON
 OUACHITA                                                   180        570
 PERRY                                                        2
 PHILLIPS                                                    57
 PIKE                                                        20         14
 POINSETT                                                     4         24
 POLK                                                        26
 POPE                                                        83        147
 PRAIRIE                                                      5          1
 PULASKI                                                    501        822
 RANDOLPH                                                    15          1
 ST FRANCIS                                                  26
 SALINE                                                     246       1478
 SCOTT                                                       17         11
 SEARCY                                                       6
 SEBASTIAN                                                  344        510
 SEVIER                                                      47
 SHARP
 STONE
 UNION                                                       80        514
 VAN BUREN                                                    5          2
 WASHINGTON                                                 143        233
 WHITE                                                       39         19
 WOODRUFF                                                    18        141
 YELL                                                        12         14

      TOTAL INDUSTRIAL -                                   3377       7383

 TOTAL USAGE FOR STATE -                     1458          3489      19708       2798
```

```
                              NATIONAL EMISSIONS DATA SYSTEM (NEDS)                        PAGE   7
                               ENVIRONMENTAL PROTECTION AGENCY                         DATE 10/10/75

                                 AREA SOURCE FUEL USAGE REPORT
                                 *****************************
                                                       UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
STATE: CALIFORNIA
*****
                                        RESIDENTIAL FUEL
                                        ****************
                 ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL   NAT. GAS    WOOD
                  10 TONS     10 TONS   10,000 GALS. 10,000 GALS. 10E7 CUFT  100 TONS
                 **********  *********** ************ ************ *********  ********
   ***COUNTY***
ALAMEDA                         27          106                      3631        15
ALPINE                                        6                         1         1
AMADOR                                       25                        21        55
BUTTE                                        43                       216        65
CALAVERAS                                    15                        27        66
COLUSA                                        7                        37         6
CONTRA COSTA                                 31                      1772        10
DEL NORTE                                    54                        14        34
EL DORADO                                    53                       105        98
FRESNO                           5           71                      1258        38
GLENN                                        15                        50        17
HUMBOLDT                                     96                       279       240
IMPERIAL                                      8                       142         4
INYO                                         31                        38        31
KERN                             7           30                      1044        12
KINGS                                         7                       177         9
LAKE                                         64                        32        33
LASSEN                          15          148                        23        57
LOS ANGELES                    137          161                     24343        70
MADERA                           7            6                       122        14
MARIN                           15           20                       572         9
MARIPOSA                                     17                        11        31
MENDOCINO                                   185                        62       170
MERCED                                       21                       292        15
MODOC                                        31                         8        28
MONO                                         18                         8         5
MONTEREY                                     32                       634        18
NAPA                                         14                       250         8
NEVADA                           7          172                        48        88
ORANGE                          16           27                      4313        11
PLACER                           8          140                       135        95
PLUMAS                           8           77                        17        92
RIVERSIDE                       21           47                      1464        35
SACRAMENTO                      15           43                      2648        18
SAN BENITO                                    7                        52         5
SAN BERNARDINO                   7          130                      2140        58
SAN DIEGO                                   133                      4052        70
SAN FRANCISCO                   37          203                      2834        17
SAN JOAQUIN                                  35                       324        20
SAN LUIS OBISPO                               7                       311        23
SAN MATEO                        7           60                      1846        14
```

```
                         NATIONAL EMISSIONS DATA SYSTEM (NEDS)                               PAGE    8
                          ENVIRONMENTAL PROTECTION AGENCY                                DATE 10/10/75
                           AREA SOURCE FUEL USAGE REPORT
                           *****************************
                                               UPDATE DATE    WEDNESDAY SEPTEMBER 17, 1975
 STATE: CALIFORNIA
  *****
                                    RESIDENTIAL FUEL
                                    ****************
                  ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL  NAT. GAS     WOOD
                   10 TONS     10 TONS   10,000 GALS. 10,000 GALS. 1UE7 CUFT  100 TONS
                  **********  *********** ************ ************ *********   ********
     ***COUNTY***
SANTA BARBARA                      9          22                       223        14
SANTA CLARA                        7         109                      3173        15
SANTA CRUZ                        15          46                       423        20
SHASTA                                        71                       154       117
SIERRA                                        31                         1        28
SISKIYOU                                     223                        39       186
SOLANO                             9          20                       520        11
SONOMA                             8          41                       648        71
STANISLAUS                         8          24                       518        14
SUTTER                                        11                       133        10
TEHAMA                             8          38                        69        45
TRINITY                                       19                        11        84
TULARE                                        36                       552        16
TUOLUMNE                                       2                        39        62
VENTURA                                       49                      2176        24
YOLO                                          33                       282         4
YUBA                                          19                       108        22

    TOTAL RESIDENTIAL -          433        3263                     65434      2500
```

```
                              NATIONAL EMISSIONS DATA SYSTEM (NEDS)                          PAGE    9
                                ENVIRONMENTAL PROTECTION AGENCY                            DATE 10/10/75

                                  AREA SOURCE FUEL USAGE REPORT
                                  *****************************
                                                           UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
  STATE: CALIFORNIA
  *****
                                  COMMERCIAL AND INSTITUTIONAL
                                  ****************************

                 ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL   NAT. GAS     WOOD
                  10 TONS     10 TONS   10,000 GALS. 10,000 GALS. 10E7 CUFT   100 TONS
                 **********  *********** ************ ************ *********   ********
      ***COUNTY***
ALAMEDA                                      1041         2861        1168
ALPINE                                                       1           1
AMADOR                                         11           32          13
BUTTE                                          99          272         111
CALAVERAS                                      13           36          15
COLUSA                                         12           33          14
CONTRA COSTA                                  571         1569         640
DEL NORTE                                      14           39          16
EL DORADO                                      43          117          48
FRESNO                                        401         1101         449
GLENN                                          17           47          19
HUMBOLDT                                       97          266         108
IMPERIAL                                       72          199          81
INYO                                           15           42          17
KERN                                          319          878         358
KINGS                                          67          172          70
LAKE                                           19           52          21
LASSEN                                         15           40          16
LOS ANGELES                                  6819        18747        7551
MADERA                                         40          111          45
MARIN                                         200          549         224
MARIPOSA                                        6           16           7
MENDOCINO                                      50          136          56
MERCED                                        101          279         114
MODOC                                           7           20           8
MONO                                            4           11           4
MONTEREY                                      242          667         272
NAPA                                           77          211          86
NEVADA                                         25           70          29
ORANGE                                       1377         3787        1545
PLACER                                         75          206          84
PLUMAS                                         11           31          13
RIVERSIDE                                     445         1224         499
SACRAMENTO                                    612         1684         687
SAN BENITO                                     18           49          20
SAN BERNARDINO                                663         1824         744
SAN DIEGO                                    1317         3620        1477
SAN FRANCISCO                                 694         1908         779
SAN JOAQUIN                                   281          774         316
SAN LUIS OBISPO                               102          282         115
SAN MATEO                                     539         1483         605
```

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```
                                   NATIONAL EMISSIONS DATA SYSTEM (NEDS)                                   PAGE  10
                                   ENVIRONMENTAL PROTECTION AGENCY                                     DATE 10/10/75

                                   AREA SOURCE FUEL USAGE REPORT
                                   *****************************

                                                                    UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
  STATE: CALIFORNIA
  *****
                                   COMMERCIAL AND INSTITUTIONAL
                                   ****************************

                    ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL   NAT. GAS      WOOD
                     10 TONS     10 TONS   10,000 GALS. 10,000 GALS. 10E7 CUFT   100 TONS
                    **********  *********** ************ ************ *********   ********
       ***COUNTY***
 SANTA BARBARA                                  258          705        288
 SANTA CLARA                                   1032         2838       1158
 SANTA CRUZ                                     120          330        135
 SHASTA                                          75          207         84
 SIERRA                                           2            6          3
 SISKIYOU                                        32           89         36
 SOLANO                                         165          453        185
 SONOMA                                         193          546        223
 STANISLAUS                                     189          519        212
 SUTTER                                          41          112         46
 TEHAMA                                          29           79         32
 TRINITY                                          7           20          8
 TULARE                                         187          502        205
 TUOLUMNE                                        21           59         24
 VENTURA                                        730         2008        820
 YOLO                                            89          245        100
 YUBA                                            43          119         49

      TOTAL COMMERCIAL -                      19741        54283      22153
```

```
                          NATIONAL EMISSIONS DATA SYSTEM (NEDS)                              PAGE  11
                           ENVIRONMENTAL PROTECTION AGENCY                                DATE 10/10/75
                              AREA SOURCE FUEL USAGE REPORT
                              *****************************
                                                              UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
  STATE: CALIFORNIA
  *****
                                         INDUSTRIAL FUEL
                                         ***************
                    ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL   NAT. GAS     WOOD      COKE    PROCESS GAS
                     10 TONS      10 TONS   10,000 GALS. 10,000 GALS. 10E7 CUFT  100 TONS   10 TONS   10E7 CUFT
                    **********  *********** ************ ************ *********  ********   *******  ***********
      ***COUNTY***
ALAMEDA                                         1113         1401        322
ALPINE
AMADOR                                            10           12          3
BUTTE                                             40           51         12
CALAVERAS                                          8           11          2
COLUSA                                             4            5          1
CONTRA COSTA                                     414          521        120
DEL NORTE                                         25           32          7
EL DORADO                                         14           18          4
FRESNO                                           216          272         62
GLENN                                              8           11          2
HUMBOLDT                                         124          156         36
IMPERIAL                                          18           23          5
INYO                                               1            2
KERN                                              84          105         24
KINGS                                             21           26          6
LAKE                                               1            2
LASSEN                                             7            9          2
LOS ANGELES                                    11918        15004       3447
MADERA                                            17           21          5
MARIN                                             50           63         15
MARIPOSA
MENDOCINO                                         56           70         16
MERCED                                            31           39          9
MODOC                                              3            4          1
MONO
MONTEREY                                          98          123         28
NAPA                                              40           51         12
NEVADA                                             8           11          2
ORANGE                                          1753         2207        507
PLACER                                            24           30          7
PLUMAS                                            14           18          4
RIVERSIDE                                        233          293         67
SACRAMENTO                                       305          384         88
SAN BENITO                                        15           19          4
SAN BERNARDINO                                   414          521        120
SAN DIEGO                                        885         1114        256
SAN FRANCISCO                                    726          914        210
SAN JOAQUIN                                      230          289         66
SAN LUIS OBISPO                                   17           21          5
SAN MATEO                                        454          572        131
```

```
                                    NATIONAL EMISSIONS DATA SYSTEM (NEDS)                                 PAGE  12
                                     ENVIRONMENTAL PROTECTION AGENCY                                     DATE 10/10/75
                                       AREA SOURCE FUEL USAGE REPORT
                                       *****************************
                                                                 UPDATE DATE   WEDNESDAY SEPTEMBER 17, 1975
  STATE: CALIFORNIA
  *****
                                             INDUSTRIAL FUEL
                                             ***************
                    ANTH. COAL  BITUM. COAL  DIST. OIL    RESID. OIL   NAT. GAS      WOOD      COKE    PROCESS GAS
                     10 TONS     10 TONS   10,000 GALS. 10,000 GALS. 10E7 CUFT   100 TONS   10 TONS   10E7 CUFT
                    **********  *********** ************ ************ *********   ********   *******  ***********
      ***COUNTY***
SANTA BARBARA                                    118          149          34
SANTA CLARA                                     1673         2119         495
SANTA CRUZ                                        86          111          25
SHASTA                                            61           77          18
SIERRA                                             1            2
SISKIYOU                                          40           51          12
SOLANO                                            45           56          13
SONOMA                                            85          109          25
STANISLAUS                                       194          244          56
SUTTER                                            20           25           6
TEHAMA                                            21           39           9
TRINITY                                            8           11           2
TULARE                                            75           95          22
TUOLUMNE                                          14           13           4
VENTURA                                          300          378          88
YOLO                                              42           53          12
YUBA                                              13           16           4

       TOTAL INDUSTRIAL -                      22211        27969        6423

TOTAL USAGE FOR STATE -              403       45215        82252       94010      2500
```

4.2.2.7 NEDS EMISSION SUMMARY REPORT (N,RB,ES)

4.2.2.7.0 DESCRIPTION

The emission summary function is a NEDS remote batch function that allows the user to retrieve a summary report by category for varying geographical areas. A sample of the report format is included in this section.

4.2.2.7.1 STRUCTURED ENTRIES

When the function is first entered, the user may ask for a listing of the available functional commands if one is needed.

In order to construct remote batch jobs, certain information is required for the RUN card. Part of this information is fixed for a single user and is therefore obtained from the master program. Some information varies for each run and is requested within the batch function. The variable information is run identifier, priority code and run time.

The run identifier is a maximum of six characters long. The first two characters are the NCC assigned bin number and the last four are any characters the user wishes to assign to uniquely identify his run. It is possible to have runs with the same identifiers but it is not recommended because tracing runs becomes much more difficult. The user's run identifier is entered after the prompt, NAME?

NCC has set up a system of priority codes that classify runs and enable the system to operate more efficiently. These codes change from time to time and therefore are not listed here. The codes are usually based on run time and number of tape or disk drives required. The disks for this function are on-line and therefore only time is to be considered. Copies of the priority scheme are available from NCC (address in 4.2.2.0). The one character priority code is entered after the prompt, PRIORITY?

The user must estimate the SUP time that will be required to complete his request. This time will vary depending upon the amount of data selected. Some rough estimates are listed here but a certain amount of trial and error is involved in estimating these times. It is better to estimate high, but this lengthens your turnaround and affects the 1110 operating efficiency.

EXAMPLES: (as of October 1975)

Selection	Time, minutes
1 AQCR	1.0
1 state/county	0.5
1 state by county	8.0
1 state	1.0
nation	20.0

4.2.2.7.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. The commands are:

	COMMAND	DESCRIPTION
i.	report=?	Report selection category wanted. Various options are open to the user to limit his retrieval to a manageable size. The option desired is chosen by specifying the selection class corresponding to it. The options are: 1. State summary report. As many states as are desired can be entered. 2. County summary report. As many state/county combinations as desired may be entered. 3. State by county summary report. As many states as desired can be entered. 4. EPA Region summary report. As many regions as desired may be requested. 5. AQCR summary report. As many AQCR's as are desired may be entered. 6. National summary report. No further input is required.
ii.	end	Terminate function. This command, following the COMMAND? prompt, signals the end of user specifications for this function.

When the user selects a category for entering selections, he enters a loop that allows him to enter as many combinations as desired. For each category, when this loop is entered and after each entry (except END) a prompt is printed indicating the information required. These prompts differ from category to category, but basically they are: combination, X, or END. The combinations reflect the category. For example, category two is the state/county category. The messages, ENTER 6 CHARACTER STATE/COUNTY CODE, X OR END and SC,X, or END? are printed. SC represents state/county. The combination entered must be of the correct length or it is rejected. The entry, X, causes the previous combination entered to be ignored. This mechanism allows users to delete erroneous information entered. END signifies that all combinations desired have been entered.

When the END command is entered after the COMMAND? prompt, a summary of the batch run constructed is listed. The user has the option of submitting the run as listed or cancelling it. If the user enters YES, the batch run is submitted to the 1110 operating system immediately. A message is returned by the 1110 system indicating the run identifier and whether the run was accepted. If the run is accepted, it goes into the 1110 backlog and is scheduled for processing just as any other batch job. Control is passed back to the ATS master program and any ATS function can be requested at that time.

4.2.2.7.3 SPECIAL NOTES

The commands can be entered in their entirety or be abbreviated to the first two characters of the command. For example, REPORT=1 and RE=1 are equally acceptable.

A report must be selected and at least one combination entered or no batch job will be submitted.

The state by county summary produces a large volume of output. Use with care.

The output of the batch job requires a 132-print position line. If the user's printer is limited to 120 characters, the output should be routed to the UNIVAC 1110 central site for later mailing to the user.

4.2.2.7.4 SAMPLE INTERACTIVE SESSION

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE    NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:49:28

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
     S = SAROAD
     N = NEDS
     I = INTERACTIVE ACCESS
    RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
     PS   - POINT SOURCE                   (N, RB)
     AS   - AREA SOURCE                    (N, RB)
     FS   - AREA SOURCE FUEL SUMMARY       (N, RB)
     ES   - EMISSIONS SUMMARY REPORT       (N, RB)
     PO   - POLLUTANT NAMES                (S, I)
     QS   - QUARTERLY SUMMARIES            (S, I)
     SI   - SITE DESCRIPTIONS              (S, I)
     UN   - UNIT TABLE                     (S, I)
     YS   - YEARLY SUMMARIES               (S, I)
     HELP - DESCRIPTION OF FUNCTIONS
     END  - END TERMINAL SESSION
FUNCTION?
ES
ENTER YOUR USER PROJECT CODE.
PROJ?
[illegible]
ENTER IDENTIFICATION NUMBER FOR THE TERMINAL
TO WHICH THE PRINT SHOULD BE ROUTED.
TERMINAL ID?
[illegible]
ENTER YOUR BATCH ACCOUNT NUMBER.
ACCT NO?
99999999


NEDS EMISSION SUMMARY LISTING

THE NEDS SUMMARY LISTING PROGRAM OFFERS THE USER REMOTE BATCH
ACCESS TO NEDS SUMMARY LISTINGS. THE AMOUNT OF INFORMATION THAT
WILL BE PRINTED IS REFLECTED BY THE REPORT NAME. CARE SHOULD BE
TAKEN TO ENSURE THAT AN EXCESSIVE AMOUNT OF PRINT IS NOT GENERATED.
IF YOU NEED A LISTING OF THE VALID COMMANDS, ENTER YES. OTHERWISE
ENTER NO.
YES OR NO?

YES

VALID COMMANDS ARE:
'REPORT=?' - REPORT WANTED.  ?   REPRESENTS THE NUMBER OF THE
             REPORT WANTED. THE NUMBERS A CORRESPONDING REPORTS ARE:
              1 - STATE SUMMARY REPORT
```

```
                    2 - COUNTY SUMMARY REPORT
                    3 - STATE BY COUNTY SUMMARY REPORT
                    4 - EPA REGION SUMMARY REPORT
                    5 - AQCR SUMMARY REPORT
                    6 - NATIONAL SUMMARY REPORT
'END'      - SIGNALS END OF REQUEST SPECIFICATIONS
THE ENTIRE COMMAND CAN RE ENTERED OR THE COMMAND CAN BE ARBREVIATED
TO THE FIRST TWO LETTERS OF THE COMMAND. FOR EXAMPLE, REPORT=1 &
RE=1 BOTH INDICATE A STATE REPORT IS DESIRED.

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCES

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RE=2

ENTER 6 CHARACTER STATE/COUNTY CODE,X,OR END

SC,X,OR END?

042600

STATE/COUNTY=042600

SC,X,OR END?

053520

STATE/COUNTY=053520

SC,X,OR END?

EN

JOB AS SPECIFIED IS:
REPORT TYPE=02

CONTROL CARDS ENTERED-

ST CNTY AQCR REGION

04 2600 999  99

05 3520 999  99
```

```
DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?
YES

JOB WILL BE SUBMITTED UPON SUCCESSFUL COMPLETION OF THIS PROCEDURE

*TM*05CCES RUN ID 05CCES 99999999 [illegible] ACCEPTED

PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END

END SESSION
```

```
@RUN  99USER,99999999,PROJ,15,9999/9999
DATE: 102175      TIME: 171431
@ASG,A  NADB*NADB-ABS/SDS.
READY
@COPY,A  NADB*NADB-ABS.ATS
FURPUR 0026-10/21-17:15
 1 ABS
@FREE   NADB*NADB-ABS.
READY
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/21/75      TIME: 17:57:28

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
ES
PROJ?
USER
TERMINAL ID?
PR
ACCT #?
99999999

NEDS EMISSION SUMMARY LISTING

COMMAND LIST---YES OR NO?

NO

ENTER YOUR RUNID (MAX. 6 CHAR.)
NAME?

05CCES

ENTER YOUR RUN PRIORITY CODE (1CHAR.)
PRIORITY?

D

 ENTER YOUR RUN TIME (MINUTES) MAX. 3 CHAR.
RUN TIME?

2

 START ENTERING COMMANDS

COMMAND?

RE=2

ENTER 6 CHARACTER STATE/COUNTY CODE,X,OR END

SC,X,OR END?

042600

STATE/COUNTY=042600

SC,X,OR END?

EN

JOB AS SPECIFIED IS:
REPORT TYPE=02
```

```
CONTROL CARDS ENTERED-

ST CNTY AQCR REGION

04 2600 999  99

DO YOU WANT TO SUBMIT THE JOB AS SPECIFIED?
YES OR NO?

YES

JOB WILL BE SUBMITTED UPON SUCCESSFUL COMPLETION OF THIS PROCEDURE

*TM*05CCES RUN ID 05CCET [redacted] [redacted]  ACCEPTED

PLEASE CHOOSE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
EN

END SESSION
```

4.2.2.7.5 SAMPLE BATCH OUTPUT

Two samples of the output produced by the remote batch run follow. The first sample shows a county summary for two counties, 04-2600 and 05-3520 (Union County, Arkansas, and Kings County, California). The second example shows an AQCR summary for AQCR 001 (Alabama and Tombigbee Rivers, Ala.).

4.2.2.7.5.1 SAMPLE EMISSIONS SUMMARY REPORT (STATE-COUNTY)

```
                              NATIONAL EMISSIONS DATA SYSTEM
                              ******************************

                             ENVIRONMENTAL PROTECTION AGENCY
                             *******************************

     COUNTY EMISSIONS REPORT                                      RUN DATE:   FRIDAY   OCTOBER 10, 1975
     ***********************                                   EMISSIONS AS OF: SEPTEMBER 17, 1975
       UNION COUNTY, ARKANSAS

                             PARTICULATES        SOX             NOX             HC              CO
                            **************  **************  **************  **************  **************
                              TONS / YR       TONS / YR       TONS / YR       TONS / YR       TONS / YR

FUEL COMBUSTION
***************

  EXTERNAL, COMBUSTION

    RESIDENTIAL FUEL (AREA)

       DISTILLATE OIL                0               1               0               0               0
       NATURAL GAS                  10               1              83               8              21
       WOOD                         15               1               6              12              12
       TOTAL (RESIDENTIAL)          26               2              89              20              33

    INDUSTRIAL FUEL

       RESIDUAL OIL
          AREA SOURCES               9             109              24               1               2
          POINT SOURCES              1              33               4               0               0
       DISTILLATE OIL
          POINT SOURCES             13             392              53               3               4
       NATURAL GAS
          AREA SOURCES              26               2             463               8              44
          POINT SOURCES             25               2             696               8              43
       WOOD
          POINT SOURCES            389              85             564             113             113
       TOTAL (INDUSTRIAL)
          AREA SOURCES              35             110             487               9              45
          POINT SOURCES            429             511            1316             123             159

    COMM-INSTITUTIONAL FUEL

       RESIDUAL OIL
          AREA SOURCES               0               3               1               0               0
       DISTILLATE OIL
          AREA SOURCES               2               5               7               0               0
       NATURAL GAS
          AREA SOURCES               4               0              47               3               8
       TOTAL (COMM-INST)
          AREA SOURCES               6               8              55               4               8
```

```
      TOTAL (EXTERNAL COMB)
            AREA SOURCES                66            120            631             33             87
            POINT SOURCES              429            511           1316            123            159

    TOTAL (FUEL COMBUSTION)

         AREA SOURCES                   66            120            631             33             87
         POINT SOURCES                 429            511           1316            123            159

INDUSTRIAL PROCESS (POINT)
**************************

     CHEMICAL MANUFACTURING           1299           2400          12955              0              0
     MINERAL PRODUCTS                    4              0              0             25             15
     PETROLEUM INDUSTRY                  9           1287            311            569          34387
     TOTAL (INDUSTRIAL)               1312           3687          13266            594          34402

SOLID WASTE DISPOSAL
********************

     RESIDENTIAL (AREA)

         ON SITE INCINERATION           17              0              1             47            142
         OPEN BURNING                   32              2             12             60            170
         TOTAL (RESIDENTIAL)            49              2             13            107            312

     COMMERCIAL-INSTITUTIONAL

         ON SITE INCINERATION
             AREA SOURCES                6              2              2              4              8
         OPEN BURNING
             AREA SOURCES                3              0              1              6             17
         TOTAL (COMM-INST)
             AREA SOURCES                9              2              3             10             25

     INDUSTRIAL

         ON SITE INCINERATION
             AREA SOURCES                3              1              1              2              4
             POINT SOURCES              70              1             10            110           1300
         OPEN BURNING
             AREA SOURCES                2              0              1              3              9
             POINT SOURCES             116              0             14             27            341
         OTHER
             POINT SOURCES               0            285              0              0              0
         TOTAL (INDUSTRIAL)
             AREA SOURCES                4              1              2              5             13
             POINT SOURCES             186            285             24            137           1641

     TOTAL (SOLID WASTE DISP)

         AREA SOURCES                   62              5             17            121            349
         POINT SOURCES                 186            286             24            137           1641

TRANSPORTATION (AREA)
*********************
```

```
  LAND VEHICLES

     GASOLINE

        LIGHT VEHICLES                  143       37      1253      1805     10181
        HEAVY VEHICLES                   12        4       130       312      1704
        OFF HIGHWAY                       3        2        36       102      1160
        TOTAL (GASOLINE)                158       43      1419      2220     13044
     DIESEL

        HEAVY VEHICLES                   28       39       367        41       170
        OFF HIGHWAY                      10        9       111        12        31
        RAIL                             21       47       303        77       107
        TOTAL (DEISEL)                   59       95       781       130       307
   VESSELS

      GASOLINE                            0        0         0        14        44
      TOTAL (VESSELS)                     0        0         0        14        44
   GAS HANDLING EVAP LOSS                 0        0         0       263         0

   TOTAL (TRANSPORTATION)               217      138      2201      2627     13396
MISCELLANEOUS (AREA)
********************

   FOREST FIRE/AGRIC BURNING            225        0        53       318      1854
   STRUCTURAL FIRES                      10        0         1         3        22
   SOLVENT EVAPORATION LOSS               0        0         0       114         0
   TOTAL (MISCELLANEOUS)                235        0        54       434      1876

GRAND TOTAL
***********

   AREA SOURCES                         580      254      2903      3216     15708
   POINT SOURCES                       1927     4485     14606       855     36202
   TOTAL                               2507     4749     17509      4070     51910
```

```
                                  NATIONAL EMISSIONS DATA SYSTEM
                                  ******************************
                                  ENVIRONMENTAL PROTECTION AGENCY
                                  *******************************
         COUNTY EMISSIONS REPORT                                        RUN DATE:   MONDAY   OCTOBER 10, 1975
         **********************                                   EMISSIONS AS OF: SEPTEMBER 17, 1975
          KINGS COUNTY, CALIFORNIA

                               PARTICULATES        SOX              NOX              HC               CO
                              **************  **************  **************  **************  **************
                                 TONS / YR       TONS / YR       TONS / YR       TONS / YR       TONS / YR

FUEL COMBUSTION
***************
   EXTERNAL COMBUSTION
      RESIDENTIAL FUEL (AREA)
         DISTILLATE OIL                 0               1               0               0               0
         NATURAL GAS                    9               1              71               7              18
         WOOD                          11               1               5               9               9
         TOTAL (RESIDENTIAL)           20               2              76              16              27
      INDUSTRIAL FUEL
         RESIDUAL OIL
            AREA SOURCES                3              37               8               0               1
            POINT SOURCES              24             101              62               3               3
         DISTILLATE OIL
            AREA SOURCES                2               3               6               0               0
         NATURAL GAS
            AREA SOURCES                0               0               5               0               1
            POINT SOURCES               1               0              15               1               1
         TOTAL (INDUSTRIAL)
            AREA SOURCES                5              40              19               1               1
            POINT SOURCES              25             101              77               4               4
      COMM-INSTITUTIONAL FUEL
         RESIDUAL OIL
            AREA SOURCES               20             246              52               3               3
         DISTILLATE OIL
            AREA SOURCES                5               9              19               1               1
         NATURAL GAS
            AREA SOURCES                3               0              42               3               7
            POINT SOURCES               0               0               3               1               0
         TOTAL (COMM-INST)
            AREA SOURCES               28             255             112               6              12
            POINT SOURCES               0               0               3               1               0
```

```
     TOTAL (EXTERNAL COMB)
          AREA SOURCES                         53           299           208            23            40
          POINT SOURCES                        25           101            80             5             4
   TOTAL (FUEL COMBUSTION)

        AREA SOURCES                           53           298           208            23            40
        POINT SOURCES                          25           101            80             5             4
 INDUSTRIAL PROCESS (POINT)
 **************************

   CHEMICAL MANUFACTURING                      41             0             0             0             0
   FOOD/AGRICULTURAL                          987             0             4             1             0
   MINERAL PRODUCTS                            33             0             0             0             0
   PETROLEUM INDUSTRY                        1621          7325          5376           797          4110
   EVAPORATION                                  0             0             0          1883             0
   INPROCESS FUEL                              27             0             1             0             0
   TOTAL (INDUSTRIAL)                        2708          7325          5380          2682          4110
 SOLID WASTE DISPOSAL
 ********************

   GOVERNMENT (POINT)

        OPEN BURNING                           76             5            28           199           403
        TOTAL (GOVERNMENT)                     76             5            28           199           403
   RESIDENTIAL (AREA)

        ON SITE INCINERATION                   92             1             3           259           776
        OPEN BURNING                           50             3            19            93           264
        TOTAL (RESIDENTIAL)                   142             5            21           352          1040
   COMMERCIAL-INSTITUTIONAL

        ON SITE INCINERATION
             AREA SOURCES                       1             0             0             1             2
        OPEN BURNING
             AREA SOURCES                       5             0             2             9            26
        TOTAL (COMM-INST)
             AREA SOURCES                       6             1             2            10            27
   INDUSTRIAL

        ON SITE INCINERATION
             AREA SOURCES                       1             0             0             1             1
        OPEN BURNING
             AREA SOURCES                       2             0             1             5            13
        TOTAL (INDUSTRIAL)
             AREA SOURCES                       3             0             1             5            14
   TOTAL (SOLID WASTE DISP)

        AREA SOURCES                          151             6            25           366          1081
        POINT SOURCES                          76             5            28           199           403
```

```
TRANSPORTATION (AREA)
•••••••••••••••••••••

    LAND VEHICLES

        GASOLINE

            LIGHT VEHICLES                    264         68        2255        3470       20542
            HEAVY VEHICLES                     27         10         286         739        4133
            OFF HIGHWAY                        11          6         129         362        4129
            TOTAL (GASOLINE)                  302         84        2669        4571       28739

        DIESEL

            HEAVY VEHICLES                     24         34         307          38         167
            OFF HIGHWAY                        51         45         561          61         158
            RAIL                               15         34         224          57          79
            TOTAL (DEISEL)                     90        113        1092         156         404

    AIRCRAFT

        MILITARY                              676        129         325        1572        1687
        CIVIL                                   1          0           1           3          17
        TOTAL (AIRCRAFT)                      676        129         325        1575        1705

    GAS HANDLING EVAP LOSS                      0          0           0         304           0

    TOTAL (TRANSPORTATION)                   1068        327        4086        6605       30893

MISCELLANEOUS (AREA)
••••••••••••••••••••

    SOLVENT EVAPORATION LOSS                    0          0           0         162           0
    TOTAL (MISCELLANEOUS)                       0          0           0         162           0

GRAND TOTAL
•••••••••••

    AREA SOURCES                             1272        631        4319        7157       32014
    POINT SOURCES                            2809       7431        5409        2886        4517
    TOTAL                                    4081       8062        9828       10043       36531
```

```
. THE LAST CONTROL CARD HAS BEEN READ AND ALL DATA PROCESSED
```

4.2.2.7.5.2 SAMPLE EMISSIONS SUMMARY REPORT (AQCR)

```
                                    NATIONAL EMISSIONS DATA SYSTEM
                                    ******************************

                                    ENVIRONMENTAL PROTECTION AGENCY
                                    *******************************

                                                                        RUN DATE: TUESDAY   OCTOBER 14, 1975
      AQCR EMISSIONS REPORT                                      EMISSIONS AS OF: SEPTEMBER 17, 1975
      *********************
        AQCR 001 ALABAMA AND TOMBIGBEE RIVERS(ALA)

                               PARTICULATES         SOX              NOX              HC               CO
                              **************  **************  **************  **************  **************
                                TONS / YR       TONS / YR       TONS / YR       TONS / YR       TONS / YR

FUEL COMBUSTION
***************

    EXTERNAL COMBUSTION

        RESIDENTIAL FUEL (AREA)

            BITUMINOUS COAL             23              43               3              23             102
            DISTILLATE OIL               6               8               7               2               3
            NATURAL GAS                 24               1             189              19              47
            WOOD                       708              42             283             566             566
            TOTAL (RESIDENTIAL)        759              95             482             609             718

        ELEC GENERATION (POINT)

            BITUMINOUS COAL           3612            4803            1527              25              85
            TOTAL (ELEC GEN)          3612            4803            1527              25              85

        INDUSTRIAL FUEL

            ANTHRACITE COAL
                POINT SOURCES         2826            3916               0               0               0
            BITUMINOUS COAL
                AREA SOURCES          1486            1277             504              34              67
                POINT SOURCES          993              55               0               0               0
            RESIDUAL OIL
                AREA SOURCES            17             444              44               2               3
                POINT SOURCES         1134            9026               0               0               0
            DISTILLATE OIL
                AREA SOURCES            13              12              50               3               3
            NATURAL GAS
                AREA SOURCES             3               0              52               1               5
                POINT SOURCES         1187              59               0               0               0
            WOOD
                POINT SOURCES         8271             777             420              84              84
            TOTAL (INDUSTRIAL)
                AREA SOURCES          1518            1734             651              39              78
                POINT SOURCES        14410           13832             420              84              84
```

COMM-INSTITUTIONAL FUEL					
BITUMINOUS COAL					
AREA SOURCES	3	6	1	0	1
RESIDUAL OIL					
AREA SOURCES	19	493	49	2	3
DISTILLATE OIL					
AREA SOURCES	12	12	49	2	3
NATURAL GAS					
AREA SOURCES	8	0	92	6	15
TOTAL (COMM-INST)					
AREA SOURCES	42	511	192	11	23
TOTAL (EXTERNAL COMB)					
AREA SOURCES	2319	2339	1325	640	819
POINT SOURCES	18023	18635	1947	109	169
INTERNAL COMBUSTION (POINT)					
ELECTRIC GENERATION					
DISTILLATE OIL	9	296	116	10	26
TOTAL (ELEC-GEN)	9	296	116	10	26
TOTAL (INTERNAL COMB)	9	296	116	10	26
TOTAL (FUEL COMBUSTION)					
AREA SOURCES	2319	2339	1325	640	819
POINT SOURCES	18031	18881	2063	119	195
INDUSTRIAL PROCESS (POINT) ••••••••••••••••••••••••••					
CHEMICAL-MANUFACTURING	29	0	276	9	0
PRIMARY METAL	4396	0	0	0	0
MINERAL PRODUCTS	16092	4463	488	0	0
WOOD PRODUCTS	12428	4958	0	0	0
TOTAL (INDUSTRIAL)	32940	9420	764	9	0
SOLID WASTE DISPOSAL ••••••••••••••••••••					
RESIDENTIAL (AREA)					
OPEN BURNING	1598	100	599	2996	8487
TOTAL (RESIDENTIAL)	1598	100	599	2996	8487
COMMERCIAL-INSTITUTIONAL					
OPEN BURNING					
AREA SOURCES	166	10	62	311	880
TOTAL (COMM-INST)					
AREA SOURCES	166	10	62	311	880
INDUSTRIAL					

ON SITE INCINERATION					
POINT SOURCES	356	0	99	487	5771
OPEN BURNING					
AREA SOURCES	10	1	9	20	55
POINT SOURCES	106	5	39	165	615
TOTAL (INDUSTRIAL)					
AREA SOURCES	10	1	9	20	55
POINT SOURCES	463	5	78	652	6986
TOTAL (SOLID WASTE DISP)					
AREA SOURCES	1779	111	665	3326	9422
POINT SOURCES	463	5	78	652	6986
TRANSPORTATION (AREA) ●●●●●●●●●●●●●●●●●●●●					
LAND VEHICLES					
GASOLINE					
LIGHT VEHICLES	687	178	6053	8460	46491
HEAVY VEHICLES	116	44	1286	2976	14018
OFF HIGHWAY	7	4	77	217	2461
TOTAL (GASOLINE)	809	225	7416	11653	69420
DIESEL					
HEAVY VEHICLES	102	143	1343	195	669
OFF HIGHWAY	72	65	803	88	926
RAIL	66	150	975	296	943
TOTAL (DEISEL)	240	358	3121	480	1138
AIRCRAFT					
MILITARY	202	39	97	470	609
CIVIL	0	0	0	0	3
TOTAL (AIRCRAFT)	202	39	97	470	607
VESSELS					
DIESEL FUEL	36	95	333	87	116
GASOLINE	0	2	7	238	756
TOTAL (VESSELS)	36	96	390	325	873
GAS HANDLING EVAP LOSS	0	0	0	888	0
TOTAL (TRANSPORTATION)	1282	648	10974	13817	67437
MISCELLANEOUS (AREA) ●●●●●●●●●●●●●●●●●●●●					
FOREST FIRE/AGRIC BURNING	1687	0	373	2290	13069
SOLVENT EVAPORATION LOSS	0	0	0	207	0
TOTAL (MISCELLANEOUS)	1687	0	373	2497	13069

GRAND TOTAL
****

AREA SOURCES	6966	3118	13337	20250	90848
POINT SOURCES	51434	28306	2905	780	6481
TOTAL	58400	31424	16242	21030	97329

```
THE LAST CONTROL CARD HAS BEEN READ AND ALL DATA PROCESSED
```

4.2.2.8 SAROAD POLLUTANT NAMES (S, I, PO)

4.2.2.8.0 DESCRIPTION

The pollutant names function is an interactive function that allows the user to retrieve pollutant names corresponding to user given valid pollutant codes. Sample of an interactive session using this function is included in this section.

4.2.2.8.1 STRUCTURED ENTRIES

When this function is first entered, the user may ask for a listing of the available functional commands by replying "yes" to the prompt "COMMAND LIST...YES OR NO?"

4.2.2.8.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The user should select and enter a command word from the list given below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. The commands for this function are:

COMMAND	DESCRIPTION
POLLUTANT=?????	The pollutant code for which a name is desired.
FIND	List the pollutant name for the code specified by the POLLUTANT command. If the POLLUTANT command is not specified, then the first pollutant name will be listed.
NEXT ??	List the pollutant name for the next ?? sequential pollutant codes. ?? must be a 2-digit number specifying the number of sequential pollutant names desired. If ?? is entered as blanks, the next sequential pollutant name is listed.
END	Signals the end of processing.

4.2.2.8.3 SPECIAL NOTES

The output generated by this function is produced on the user's terminal immediately after the commands FIND or NEXT.

4.2.2.8.4 SAMPLE OF AN INTERACTIVE SESSION

```
  1 ABS
 DATS
 AEROS TERMINAL SYSTEM (V.1)  DATE: 10/22/75      TIME: 16:28:45

 NADB-STE-INX DISABLED--CONTINUING
 NADB-PARMFL  DISABLED--CONTINUING
 ARE YOU USING A CRT TERMINAL? ( YES OR NO )
 YES
 DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
 YES

 THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
 QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
 THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
 SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
 BY THE FOLLOWING NOTATION:
     S = SAROAD
     N = NEDS
     I = INTERACTIVE ACCESS
    RB = REMOTE BATCH ACCESS
 THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
     PS   - POINT SOURCE                   (N, RB)
     AS   - AREA SOURCE                    (N, RB)
     FS   - AREA SOURCE FUEL SUMMARY       (N, RB)
     ES   - EMISSIONS SUMMARY REPORT       (N, RB)
     PO   - POLLUTANT NAMES                (S, I)
     QS   - QUARTERLY SUMMARIES            (S, I)
     SI   - SITE DESCRIPTIONS              (S, I)
     UN   - UNIT TABLE                     (S, I)
     YS   - YEARLY SUMMARIES               (S, I)
     HELP - DESCRIPTION OF FUNCTIONS
     END  - END TERMINAL SESSION
 FUNCTION?
 PO


 AIR POLLUTION POLLUTANT NAMES


 GIVEN A VALID POLLUTANT CODE, THIS PROGRAM GIVES THE USER
 THE CORPESPONDING POLLUTANT NAME.

 IF YOU WISH A SHORT DESCRIPTION OF THE VALID COMMANDS,
 REPLY YES. OTHERWISE, REPLY NO.
 YES OR NO?
 YES

 COMMANDS USED IN THIS PROGRAM ARE:

 'POLLUTANT=?????' -THE POLLUTANT CODE FOR WHICH A NAME
                   IS DESIRED
 'FIND'            -GET THE POLLUTANT NAME FOR THE CODE
                   GIVEN
 'NEXT ??'         -GET THE POLLUTANT NAME FOR THE NEXT
                   SEQUENTIAL POLLUTANT CODE.
                   IF ?? IS ENTERED AS BLANKS, 01 IS ASSUMED.
                   OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
 'END'             -SIGNALS THE END OF PROCESSING
```

```
THE ENTIRE COMMAND CAN BE ENTERED OR THE COMMAND CAN
BE ABBREVIATED TO THE FIRST TWO LETTERS OF THE COMMAND.
START  ENTERING COMMANDS

COMMAND?
NEXT

POLLUTANT CODE: 11101
POLLUTANT NAME IS PARTICULATE

COMMAND?
NEXT 02

POLLUTANT CODE: 11102
POLLUTANT NAME IS ORGANIC (TOTAL) FRACTION

POLLUTANT CODE: 11103
POLLUTANT NAME IS BENZENE SOLUBLE ORGANIC FRACTION

COMMAND?
PO=42401

POLLUTANT=42401

COMMAND?
FIND

POLLUTANT CODE: 42401
POLLUTANT NAME IS SULFUR DIOXIDE

COMMAND?
NEXT 05

POLLUTANT CODE: 42402
POLLUTANT NAME IS HYDROGEN SULFIDE

POLLUTANT CODE: 42403
POLLUTANT NAME IS CARBON DISULFIDE

POLLUTANT CODE: 42404
POLLUTANT NAME IS CARBON OXYSULFIDE

POLLUTANT CODE: 42405
POLLUTANT NAME IS SULFURIC ACID

POLLUTANT CODE: 42410
POLLUTANT NAME IS SULFATION RATE

COMMAND?
POLLUTANT=42404

POLLUTANT=42404
```

```
COMMAND?
FI

POLLUTANT CODE: 42404
POLLUTANT NAME IS CARBON OXYSULFIDE

COMMAND?
END


ALL POLLUTANT NAME REQUESTS ANSWERED.
PLEASE CHOOSE THE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END

END SESSION
```

4.2.2.9 SAROAD SITE DESCRIPTIONS (S, I, SI)

4.2.2.9.0 DESCRIPTION

The site description function is an interactive function that allows the user to retrieve either complete or abbreviated site information for the sites referenced in the SAROAD data bank. Sample of an interactive session using this function is included in this section.

4.2.2.9.1 STRUCTURED ENTRIES

When the function is first entered, the user may obtain a list of available functional commands by replying "YES" to the prompt, COMMAND LIST....YES OR NO?.

The user is then given the option for abbreviated or full description. The user should select one of the two options and enter either ABBR or FULL in response to the prompt, ABBR or FULL?. This function is now ready to receive functional commands. This fact is indicated by the system response, START ENTERING COMMANDS.

4.2.2.9.2 COMMANDS

After the preliminary responses have been entered, the user receives the prompt, COMMAND? The user should select and enter a command word from the list given below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the work ("=" is entered after the first 2 characters where applicable).

The commands for this function are:

COMMAND	DESCRIPTION
STATE=??	2 digit code for the state desired.
AREA =????	4 digit code for the city or county desired.
SITE=???	3 digit code for site desired within the area.
AGENCY=?	1 character code of the sponsoring agency.

COMMAND	DESCRIPTION
PROJECT=??	2 digit code, specifying the type of sampling
KEY=????????????	12 characters, which is the combination of the above code in the same order they are given above.
FIND	List the description for the site identified by one or more of the above commands.
NEXT=??	List the description for the next ?? sequential sites. ?? must be a 2-digit number specifying the number of sequential site descriptions desired. If ?? is entered as blanks, the next site description is listed.
END	Signals end of processing.

4.2.2.9.3 SPECIAL NOTES

If a match is not found for the specified site, the fact is indicated and the KEY must be reentered, or a portion of the key may be reentered with the singular commands.

This function operates in an interactive mode. Therefore, the output produced will be displayed on the user's terminal immediately after the FIND or NEXT commands.

4.2.2.9.4 SAMPLE OF AN INTERACTIVE SESSION

```
DATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/23/75       TIME: 12:53:43

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
SITE

AIR POLLUTION SITE DESCRIPTIONS
COMMAND LIST---YES OR NO?
YES


THE COMMANDS USED BY THIS PROGRAM ARE LISTED BELOW:
'STATE=??'     THE STATE DESIRED
'AREA=????'    THE CODE NUMBER FOR THE CITY OR COUNTY
'SITE=???'     THE SITE NUMBER WITHIN THE AREA
'AGENCY=?'     THE CODE FOR THE SPONSORING AGENCY
'PROJECT=??'   THE CODE FOR THE TYPE OF SAMPLING
'KEY=????????????' (12 CHARACTERS)
               THE COMPLETE KEY IS COMPOSED OF THE CODES ABOVE
               IN THE ORDER GIVEN.
'FIND'         GET THE DESCRIPTION FOR THE SITE SPECIFIED
'NEXT ??'      GET THE DESCRIPTION FOR THE NEXT SEQUENTIAL SITE
               COMBINATION.  IF ?? IS ENTERED AS BLANKS, 01 IS
               ASSUMED. OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
'END'          SIGNALS END OF SESSION,PROGRAM ENDS
THE FULL COMMAND CAN BE USED OR THE COMMAND CAN BE
ABBREVIATED TO THE FIRST TWO (2) CHARACTERS.
IF A MATCH IS NOT FOUND FOR THE SPECIFIED SITE, THE FACT
IS INDICATED AND THE KEY MUST BE REENTERED.

PLEASE SPECIFY ABBREVIATED OR FULL DESCRIPTION
ABBR OR FULL?
ABBR

START ENTERING COMMANDS

COMMAND?
NEXT


SITECODE: 01         AGENCY/PROJECT:     AGENCY-TYPE: UNKNOWN
LOCATION: UNKNOWN                       ,ALABAMA
COUNTY (     ): UNKNOWN                         LATITUDE:     D.    M.    S.
ABBREV. SITE: DUMMY FOR TSO                     LONGITUDE:    D.    M.    S.

COMMAND?
NEXT 03


SITECODE: 010020001 AGENCY/PROJECT: F01 AGENCY-TYPE: STATE
LOCATION: ABBEVILLE                     ,ALABAMA
COUNTY (1780): HENRY CO                         LATITUDE:   31 D. 33 M. 15 S.N
```

```
ABBREV. SITE: U S HIGHWAY 431                 LONGITUDE:  85 D. 15 M. 14 S.W

SITECODE: 010030001 AGENCY/PROJECT: F01 AGENCY-TYPE: STATE
LOCATION: ALABASTER                     ,ALABAMA
COUNTY (3060): SHELBY CO                      LATITUDE:   33 D. 15 M. 10 S.N
ABBREV. SITE: SEWAGE TREATMENT PLANT          LONGITUDE: 086 D. 48 M. 59 S.W

SITECODE: 010060001 AGENCY/PROJECT: F01 AGENCY-TYPE: STATE
LOCATION: ALEXANDER CITY                ,ALABAMA
COUNTY (3160): TALLAPOOSA CO                  LATITUDE:   32 D. 55 M. 48 S.N
ABBREV. SITE: ALEX CITY JR COLLEGE            LONGITUDE:  85 D. 56 M. 28 S.W

COMMAND?
ST=05

STATE=05

COMMAND?
FI


SITECODE: 05        AGENCY/PROJECT:     AGENCY-TYPE: UNKNOWN
LOCATION: UNKNOWN                       ,CALIFORNIA
COUNTY (     ): UNKNOWN                       LATITUDE:      D.     M.     S.
ABBREV. SITE: DUMMY FOR TSO                   LONGITUDE:     D.     M.     S.

COMMAND?
NE 03


SITECODE: 050100001 AGENCY/PROJECT: C05 AGENCY-TYPE: EPA/EFFECTS RES.
LOCATION: ALHAMBRA                      ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                 LATITUDE:   34 D. 05 M. 39 S.N
ABBREV. SITE: 220 S CHAPEL RD                 LONGITUDE: 118 D. 07 M. 16 S.W

SITECODE: 050180001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: ALTURAS                       ,CALIFORNIA
COUNTY (4740): MODOC CO                       LATITUDE:   41 D. 26 M. 38 S.N
ABBREV. SITE: 202 W FOURTH STREET             LONGITUDE: 123 D. 00 M. 00 S.W

SITECODE: 050230001 AGENCY/PROJECT: A01 AGENCY-TYPE: EPA/ATMOS. SURV.
LOCATION: ANAHEIM                       ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                 LATITUDE:   33 D. 49 M. 14 S.N
ABBREV. SITE: 1010 S HARBOR BLVD              LONGITUDE: 117 D. 54 M. 48 S.W

COMMAND?
AG=G

AGENCY=G

COMMAND?
FI
```

```
NO SITE FILE ENTRY FOR  05       6     . ENTER VALID KEY

COMMAND?
NEXT


SITECODE: 050230001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: ANAHEIM                         ,CALIFORNIA
COUNTY (5440): ORANGE CO                          LATITUDE:   33 D. 49 M. 15 S.N
ABBREV. SITE: 1010 S HARBOR BLVD                  LONGITUDE: 117 D. 54 M. 48 S.W

COMMAND?
NE


SITECODE: 050230002 AGENCY/PROJECT: C01 AGENCY-TYPE: EPA/EFFECTS RES.
LOCATION: ANAHEIM                         ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                     LATITUDE:   33 D. 48 M. 50 S.N
ABBREV. SITE: LOS CERRITOS & EUCLID AVE           LONGITUDE: 117 D. 56 M. 40 S.W

COMMAND?
AREA=3900

AREA=3900

COMMAND?
SITE=000

SITE=000

COMMAND?
PR=01

PROJECT=01

COMMAND?


INVALID COMMAND. REENTER


COMMAND?
FI


NO SITE FILE ENTRY FOR   053900000G01   . ENTER VALID KEY

COMMAND?
AG=I

AGENCY=I

COMMAND?
SITE=001
```

```
SITE=001

COMMAND?
FI


SITECODE: 053900001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: LENNOX                      ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                  LATITUDE:   33 D. 55 M. 49 S.N
ABBREV. SITE: 11408 LA CIENEGA BLVD.           LONGITUDE: 118 D. 22 M. 08 S.W

COMMAND?
KEY=053900001F01

COMPLETE KEY ='053900001F01'

COMMAND?
FI


NO SITE FILE ENTRY FOR   053900001F01  . ENTER VALID KEY  .

COMMAND?
AG=

INVALID COMMAND. REENTER


COMMAND?
AG=I

AGENCY=I

COMMAND?
FI


SITECODE: 053900001 AGENCY/PROJECT: I01 AGENCY-TYPE: DISTRICT
LOCATION: LENNOX                      ,CALIFORNIA
COUNTY (4200): LOS ANGELES CO                  LATITUDE:   33 D. 55 M. 49 S.N
ABBREV. SITE: 11408 LA CIENEGA BLVD.           LONGITUDE: 118 D. 22 M. 08 S.W

COMMAND?
END

ALL SITE INFORMATION REQUESTS ANSWERED.
PLEASE ENTER THE NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END

END SESSION
```

4.2.2.10 SAROAD UNITS TABLE (S, I, UN)

4.2.2.10.0 DESCRIPTION

The units table function is an interactive function that will produce the AEROS units table. Sample output of this function is included in this section.

4.2.2.10.1 STRUCTURED ENTRIES

No structured entries are required by this function.

4.2.2.10.2 COMMAND

This function does not have any commands.

4.2.2.10.3 SPECIAL NOTES

This function operates in an interactive mode. Only one table is produced as output which is displayed on the user's terminal immediately after entering the function.

4.2.2.10.4 SAMPLE OF AN INTERACTIVE SESSION

```
QATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 10/22/75      TIME: 16:34:03

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
YES
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
NO

FUNCTION?
UNIT

NADB UNITS TABLE

(00)      (UNKNOWN                )
(01)      (UG/CU METER (25 C)     )
(02)      (UG/CU METER (0  C)     )
(03)      (NG/CU METER (25 C)     )
(04)      (NG/CU METER (0  C)     )
(05)      (MG/CU METER (25 C)     )
(06)      (MG/CU METER (0 C)      )
(07)      (PARTS PER MILLION      )
(08)      (PARTS PER BILLION      )
(09)      (COHS/1,000 LINEAR FT   )
(10)      (RUDS/10,000 LINEAR FT  )
(11)      (METERS/SECOND          )
(12)      (MILES/HOUR             )
(13)      (KNOTS                  )
(14)      (DEGREES, COMPASS       )
(15)      (DEGREES, FAHRENHEIT    )
(16)      (MILLIBARS              )
(17)      (DEGREES, CENTIGRADE    )
(18)      (LANGLEYS               )
(19)      (PER CENT REL. HUMIDITY )
(20)      (MICRONS                )
(21)      (INCHES (RAINFALL)      )
(22)      (INCHES(MERCURY)        )
(23)      (KCAL./SQ. CM./MIN.     )
(24)      (MILES (VISIBILITY)     )
(25)      (LANGLEYS/MINUTE        )
(30)      (PICOCURIES/CU. METER   )
(31)      (MICROCURIES/CU. METER  )
(32)      (PICOCURIES/SQ. METER   )
(33)      (MICROCURIES/SQ. METER  )
(34)      (PICOCURIES/CU. CM.     )
(35)      (PICOCURIES/GRAM        )
(40)      (PARTS/HUNDRED MILLION  )
(41)      (MG. SO3/100 SQ. CM./MO.)
(42)      (RUDS/1,000 LINEAR FT.  )
(43)      (GRAMS/SQ. METER/MONTH  )
(44)      (UG/SQ. MILE/MONTH      )
(45)      (TONS/SQ. MI./DAY       )
(46)      (GRAMS/SQ. METER /DAY   )
(47)      (UG/SQ. METER/DAY       )
(48)      (1000 PARTICULES/SQ. IN.)
(49)      (100 PARTICULES/SQ. IN. )
(50)      (NO. THRESHOLD LEVELS   )
(61)      (PH UNITS               )
(70)      (MG. F/100 SQ. CM./DAY  )
```

```
(71)      (UG.F/100 SQ. CM.-DAY     )
(80)      (MG. SO3/100 SQ. CM./DAY)
(81)      (UG. SO2/SQ. CM./DAY      )
(82)      (UG. SO2/SQ. CM.-DAY      )
(90)      (TONS/SQ. MI./MONTH       )
(91)      (MG./SQ. CM./MONTH        )
(92)      (UG./CU. M./MONTH         )
(93)      (GRAMS/SQ. METER/MONTH    )
(98)      (MG. SO4/SQ. CM./30 DAYS)
(99)      (MG./SQ. CM./30 DAYS      )

UNITS TABLE COMPLETE.  PLEASE ENTER NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
END

END SESSION
```

4.2.2.11 SAROAD YEARLY SUMMARIES (S,I,YS)

4.2.2.11.0 DESCRIPTION

The SAROAD yearly summaries function is an interactive function that allows the user to retrieve selected summary information for any site for a given pollutant. The following summary information is available:

- All statistics desired
- The number of observations
- The maximum value encountered
- The minimum value encountered
- The percentage of possible observations that are present
- One half the minimum detectable
- The number of times values occurred that were less than the minimum detectable
- Time maximum occurred (MM:DA:HR)
- Time second maximum occurred (MM:DA:HR)
- Second maximum value

For intervals other than Y or Z:

- The arithmetic mean. This value is blank for non-criteria data.
- The geometric mean. This value is blank for non-criteria data.
- The arithmetic standard deviation. This value is blank for non-criteria data.
- The geometric standard deviation. This value is blank for non-criteria data.
- Number of primary violations (blank if no standard)
- Number of secondary violations (blank if no standard)

For Y and Z intervals only:

- Number of non-overlapping primary violations (blank if interval not equal to Z or Y)
- Number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
- Number of overlapping values that exceed the primary standard
- Number of overlapping values that exceed the secondary standard

4.2.2.11.1 STRUCTURED ENTRIES

When this function is entered, the user may ask for a listing of the available functional commands and instructions by replying "YES" to the prompt "COMMAND LIST...YES OR NO?"

When the program is ready for accepting functional commands, it will display START ENTERING COMMAND?

4.2.2.11.2 COMMANDS

After the preliminary responses have been processed, the user is prompted by the prompt, COMMAND? The user should select and enter a command word from the list below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. Where "=" sign is present in the command, it should appear after the first two characters if the abbreviated mode is being used.

The yearly summary functional commands are of two types. The first type provides information for locating the desired information. The other type describes the summary information desired. Initially, the program is set up not to print any of the summary information. The summary information commands entered by the user define the extent of summary information output. If at a later point in the session the user desires to negate some or all of the commands he has entered, he should enter the command prefixed by "X". For example, if the user has requested number of observations by entering "OB" command and he no longer is interested in that information, he should enter "XOB" in response to the prompt COMMAND?

The following commands define the search parameter:

COMMAND	DESCRIPTION
STATE=??	State Code
AREA=????	City or County Code
SITE=???	Site Number within the Area
AGENCY=?	Sponsoring Agency Code
PROJECT=??	Code for the Type of Sampling
POLLUTANT=?????	Desired Pollutant Code
METHOD=??	Sampling Method Desired
INTERVAL=?	Sampling Interval Desired
YEAR=??	Year Desired
KEY=??????????????????????	22 Characters for the Complete Key Desired

The following commands describe the type of summary information desired.

COMMAND	DESCRIPTION
ALL	all statistics are desired
OBSERV	the number of observations
MAX	the maximum value encountered
MIN	the minimum value encountered
%OBSERV	the percentage of possible observations that are present
ZSUB	one half the minimum detectable
ZCNT	the number of times values occurred that were less than the minimum detectable
MT	time maximum occurred (MM:DA:HR)
ST	time second maximum occurred (MM:DA:HR)
SM	second maximum value
For intervals other than Y or Z:	
AMEAN	the arithmetic mean. This value is blank for non-criteria data.
GMEAN	the geometric mean. This value is blank for non-criteria data.
ASTDEV	the arithmetic standard deviation. This value is blank for non-criteria data.
GSTDEV	the geometric standard deviation. This value is blank for non-criteria data.
PV	number of primary violations (blank if no standard)
SV	number of secondary violations (blank if no standard)

For Y and Z intervals only:

COMMAND	DESCRIPTION
NP	number of non-overlapping primary violations (blank if interval not equal to Z or Y)
NS	number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
OP	number of overlapping values that exceed the primary standard
OS	number of overlapping values that exceed the secondary standard

The following commands direct the program to report the information desired or to end processing quarterly summaries.

COMMAND	DESCRIPTION
NEXT ??	get the inventory for the next sequential site-pollutant-year. ?? is the number records wanted. If ?? is entered as blanks, 01 is assumed. Otherwise, ?? must be a 2 digit number.
FIND	get the inventory for the specified site-pollutant-year combination
END	signals end of session, program ends

4.2.2.11.3 SPECIAL NOTES

This function operates in an interactive mode. Thus it will produce the requested summary reports upon the user's terminal immediately after the FIND or NEXT commands.

Initially this program will not produce any summary information. The user must select the extent of information he desires by entering the proper command. If later in the session he wants to exclude some or all of the information requested, he can do so by entering the proper command prefixed by "X".

4.2.2.11.4 SAMPLE OF AN INTERACTIVE SESSION

```
@ATS
AEROS TERMINAL SYSTEM (V.1)  DATE: 03/19/76      TIME: 10:47:38

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
=NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
=YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE                (N, RB)
    AS   - AREA SOURCE                 (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY    (N, RB)
    ES   - EMISSIONS SUMMARY REPORT    (N, RB)
    PO   - POLLUTANT NAMES             (S, I)
    QS   - QUARTERLY SUMMARIES         (S, I)
    SI   - SITE DESCRIPTIONS           (S, I)
    UN   - UNIT TABLE                  (S, I)
    YS   - YEARLY SUMMARIES            (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
=YS

AIR POLLUTION YEARLY DATA SUMMARY
THIS PROGRAM REPORTS THE SELECTED SUMMARY INFORMATION FOR
ANY SITE FOR THE POLLUTANTS SPECIFIED. IF YOU WISH A SHORT
DESCRIPTION OF THE COMMANDS, REPLY YES -- OTHERWISE REPLY NO
YES OR NO?
=YES
```

```
THE VALID SITE-POLLUTANT COMMANDS ARE:

 'STATE=??'       THE STATE DESIRED
 'AREA=????'       THE CODE NUMBER FOR THE CITY OR COUNTY
 'SITE=???'        THE SITE NUMBER WITHIN THE AREA
 'AGENCY=?'        THE CODE FOR THE SPONSORING AGENCY
 'PROJECT=??'      THE CODE FOR THE TYPE OF SAMPLING
 'POLLUTANT=?????' THE CODE FOR THE DESIRED POLLUTANT
 'METHOD=??'       THE CODE FOR THE SAMPLING METHOD
 'INTERVAL=?'      THE CODE FOR THE SAMPLING INTERVAL
 'YEAR=??'         THE YEAR DESIRED
 'KEY=??????????????????????'  (22 CHARACTERS) FOR THE
                   COMPLETE KEY DESIRED IN THE ORDER GIVEN
                   ABOVE

 'FIND'            GET THE INVENTORY FOR THE SPECIFIED
                   SITE-POLLUTANT-YEAR COMBINATION
 'NEXT ??'         GET THE INVENTORY FOR THE NEXT
                   SEQUENTIAL SITE-POLLUTANT-YEAR.
                   ?? IS THE NUMBER RECORDS WANTED.
                   IF ?? IS ENTERED AS BLANKS, 01 IS ASSUMED.
                   OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
 'END'             SIGNALS END OF SESSION, PROGRAM ENDS

 THE VALID SUMMARY INFORMATION COMMANDS ARE:

 'ALL'             ALL STATISTICS ARE DESIRED
 'OBSERV'          THE NUMBER OF OBSERVATIONS
 'MAX'             THE MAXIMUM VALUE ENCOUNTERED
 'MIN'             THE MINIMUM VALUE ENCOUNTERED
 '%OBSERV'         THE PER CENT OF POSSIBLE OBSERVATIONS
                   THAT ARE PRESENT
 'ZSUB'            ONE HALF THE MINIMUM DETECTABLE
 'ZCNT'            THE NUMBER OF TIMES VALUES OCCURRED
                   THAT WERE LESS THAN THE MINIMUM
                   DETECTABLE
 'MT'              TIME MAXIMUM OCCURRED (MM:DA:HR)
 'ST'              TIME SECOND MAXIMUM OCCURRED (MM:DA:HR)
 'SM'              SECOND MAXIMUM VALUE'
 FOR INTERVALS OTHER THAN Y OR Z --

 'AMEAN'           THE ARITHMETIC MEAN. THIS VALUE IS
                   BLANK FOR NON-CRITERIA DATA.
 'GMEAN'           THE GEOMETRIC MEAN. THIS VALUE IS
                   BLANK FOR NON-CRITERIA DATA.
 'ASTDEV'          THE ARITHMETIC STANDARD DEVIATION.
                   THIS VALUE IS BLANK FOR NON-CRITERIA DATA
```

'GSTDEV'	THE GEOMETRIC STANDARD DEVIATION. THIS VALUE IS BLANK FOR NON-CRITERIA DATA.
'PV'	NUMBER OF PRIMARY VIOLATIONS (BLANK IF NO STANDARD)
'SV'	NUMBER OF SECONDARY VIOLATIONS (BLANK IF NO STANDARD)

FOR Y AND Z INTERVALS ONLY --

'NP'	NUMBER OF NON-OVERLAPPING PRIMARY VIOLATIONS (BLANK IF INTERVAL NOT EQUAL TO Z OR Y)
'NS'	NUMBER OF NON-OVERLAPPING VIOLATIONS
'OP'	NUMBER OF OVERLAPPING VALUES THAT EXCEED THE PRIMARY STANDARD
'OS'	NUMBER OF OVERLAPPING VALUES THAT EXCEED THE SECONDARY STANDARD

INITIALLY THE PROGRAM IS SET UP NOT TO PRINT ANY OF THE SUMMARY INFORMATION. TO REQUEST THE INFORMATION ENTER THE CORRECT COMMAND. IF AT A LATER DATE IN THE PROGRAM YOU NO LONGER WANT THIS INFORMATION ENTER THE COMMAND PREFIXED BY THE LETTER X. FOR ANY COMMAND EXCEPT THE NEGATIVE SUMMARY INFORMATION COMMAND, YOU MAY ENTER THE ENTIRE COMMAND OR THE FIRST TWO (2) CHARACTERS. FOR THE NEGATIVE SUMMARY INFORMATION COMMANDS, THREE (3) CHARACTERS ARE REQUIRED, SUCH AS XMA FOR 'NO MAXIMUM TO BE PRINTED'. IF A MATCH IS NOT FOUND FOR A SITE-POLLUTANT-DATE COMBINATION THE FACT IS INDICATED AND YOU MAY ENTER A NEW COMBINATION OR REQUEST THE NEXT SEQUENTIAL COMBINATION.

```
START ENTERING COMMANDS
COMMAND?
ALL

ALL
COMMAND?
=KEY=020160002G014210111174

COMPLETE KEY='020160002G014210111174'
COMMAND?
=FIND
```

```
SITE CODE=020160002C01                                 POLL/ME/UN=42101105                            UNITS  INT  YR
FAIRBANKS              ,ALASKA                         CARBON    MONOXIDE                              05    1   74
                                                       INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                               6900     MAXIMUM=                              40.3
MINIMUM=                                        .2     ARITH. MEAN=                           6.4
GEOM. MEAN=                                    4.6     ARITH. STANDARD DEVIATION=           5.389
GEOM. STANDARD DEVIATION=                    2.322     PERCENT OBSERVATIONS=                70.05
SUBSTITUTE VALUE =                              .2     # SUBSTITUTES MADE=                      2
# PRIMARY VIOLATIONS=                            0     # SECONDARY VIOLATIONS=                  0
TIME MAXIMUM OCCURRED=                    01:30:16     TIME SECOND MAXIMUM OCCURED=      01:04:17
SECOND MAXIMUM VALUE=                         46.3
COMMAND?


KEY=020160002C0142101111Z72

COMPLETE KEY='020160002C0142101111Z72'
COMMAND?
=FIND



SITE CODE=020160002C01                                 POLL/ME/UN=42101105                            UNITS  INT  YR
FAIRBANKS              ,ALASKA                         CARBON    MONOXIDE                              05    2   72
                                                       INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                               7315     MAXIMUM=                              30.3
MINIMUM=                                        .3     SUBSTITUTE VALUE =                      .3
# SUBSTITUTES MADE=                              0     # NON-OVLP PRI-VIOLATIONS =              0
# NON-OVLP SEC-VIOLATIONS =                      0     TIME MAXIMUM OCCURRED=            11:16:16
TIME SECOND MAXIMUM OCCURRED=             12:26:19     SECOND MAXIMUM VALUE=                 29.2
# OVLP VALS EXCEEDING PRIMARY=                   0     # OVLP VALS EXCEEDING SECONDARY=         0
COMMAND?


COMMAND?
=XALL

XALL

COMMAND?
=NEXT
```

```
SITE CODE=010020001F01                             POLL/ME/UN=111019101                       UNITS  INT  YR
ABBEVILLE             ,ALABAMA                     SUSPENDED PART.                              01    7   74
                                                   HI-VOL  GRAVIMETRIC

COMMAND?
=ALL

ALL
COMMAND?
=XMI

XMI
COMMAND?
=XOB

XOB
COMMAND?
=NEXT



SITE CODE=010360001F01                             POLL/ME/UN=111019101                       UNITS  INT  YR
ALEXANDER CITY        ,ALABAMA                     SUSPENDED PART.                              01    7   74
                                                   HI-VOL  GRAVIMETRIC
MAXIMUM=                                    85     ARITH. MEAN=                          38
GEOM. MEAN=                                 36     ARITH. STANDARD DEVIATION=        15.350
GEOM. STANDARD DEVIATION=                1.504     PERCENT OBSERVATIONS=
SUBSTITUTE VALUE =                           1     # SUBSTITUTES MADE=                    0
# PRIMARY VIOLATIONS=                        0     # SECONDARY VIOLATIONS=                0
TIME MAXIMUM OCCURRED=                10:21:00     TIME SECOND MAXIMUM OCCURED=    07:11:00
SECOND MAXIMUM VALUE=                       66
COMMAND?
=END

YEARLY SUMMARY REQUESTS COMPLETED, ENTER NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
=END

END SESSION
=
```

4.2.2.12 SAROAD QUARTERLY SUMMARIES (S,I,QS)

4.2.2.12.0 DESCRIPTION

The SAROAD Quarterly summaries function is an interactive function that allows the user to retrieve selected summary information for any site for a given pollutant. The following summary information is available:

- All statistics are desired
- The number of observations
- The maximum value encountered
- The minimum value encountered
- The percentage of possible observations that are present
- One half the minimum detectable
- The number of times values occurred that were less than the minimum detectable
- Time maximum occurred
- Time second maximum occurred
- Second maximum value

For intervals other than Y or Z:

- The arithmetic mean. This value is blank for non-criteria data.
- The geometric mean. This value is blank for non-criteria data.
- The arithmetic standard deviation. This value is blank for non-criteria data.
- The geometric standard deviation. This value is blank for non-criteria data.
- Number of primary violations (blank if no standard)
- Number of secondary violations (blank if no standard)

For Y and Z intervals only:

- Number of non-overlapping primary violations (blank if interval not equal to Z or Y)
- Number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
- Number of overlapping values that exceed the primary standard
- Number of overlapping values that exceed the secondary standard

4.2.2.12.1 STRUCTURED ENTRIES

When this function is entered, the user may ask for a listing of the available functional commands and instructions by replying "YES" to the prompt "COMMAND LIST...YES OR NO?"

When the program is ready for accepting functional commands, it will display START ENTERING COMMAND?

4.2.2.12.2 COMMANDS

After the preliminary responses have been processed, the user is prompted by the prompt, COMMAND? The user should select and enter a command word from the list below. The command word can be entered in its entirety or can be abbreviated to the first two characters of the word. Where "=" sign is present in the command, it should appear after the first two characters if the abbreviated mode is being used.

The quarterly summary functional commands are of two types: The first type provides information for locating the desired information. The other type describes the summary information desired. Initially, the program is set up not to print any of the summary information. The summary information commands entered by the user define the extent of summary information output. If at a later point in the session the user desires to negate some or all of the commands he has entered, he should enter the command prefixed by "X". For example, if the user has requested number of observations by entering "OB" command and he is no longer interested in that information, he should enter "XOB" in response to the prompt COMMAND?

The following commands define the search parameter:

COMMAND	DESCRIPTION
STATE=??	State Code
AREA=????	City or County Code
SITE=???	Site Number within the Area
AGENCY=?	Sponsoring Agency Code
PROJECT=??	Code for the Type of Sampling
POLLUTANT=?????	Desired Pollutant Code
METHOD=??	Sampling Method Desired
INTERVAL=?	Sampling Interval Desired
YEAR=??	Year Desired
QUARTER=??	Quarter Desired
KEY=????????????????????????	24 Characters for the Complete Key Desired

The following commands describe the type of summary information desired:

COMMAND	DESCRIPTION
ALL	all statistics are desired
OBSERV	the number of observations
MAX	the maximum value encountered
MIN	the minimum value encountered
%OBSERV	the percentage of possible observations that are present
ZSUB	one half the minimum detectable
ZCNT	the number of times values occurred that were less than the minimum detectable
MT	time maximum occurred (MM:DA:HR)
ST	time second maximum occurred (MM:DA:HR)
SM	second maximum value
For intervals other than Y or Z.	
AMEAN	the arithemtic mean. This value is blank for non-criteria data.
GMEAN	the geometric mean. This value is blank for non-criteria data.
ASTDEV	the arithemtic standard deviation. This value is blank for non-criteria data.
GSTDEV	the geometric standard deviation. This value is blank for non-criteria data.
PV	number of primary violations (blank if no standard)
SV	number of secondary violations (blank if no standard)

For Y and Z intervals only.

COMMAND	DESCRIPTION
NP	number of non-overlapping primary violations (blank if interval not equal to Z or Y)
NS	number of non-overlapping secondary violations (blank if interval not equal to Z or Y)
OP	number of overlapping values that exceed the primary standard
OS	number of overlapping values that exceed the secondary standard

The following commands direct the program to report the information desired or to end processing quarterly summaries.

COMMAND	DESCRIPTION
NEXT ??	get the inventory for the next sequential site-pollutant-year. ?? is the number records wanted. If ??=is entered as blanks, 01 is assumed. Otherwise, ?? must be a 2 digit number.
FIND	get the inventory for the specified site-pollutant-year combination
END	signals end of session, program ends

4.2.2.12.3 SPECIAL NOTES

This function operates in an interactive mode. Thus it will produce the requested summary reports upon the user's terminal immediately after the FIND or NEXT commands.

Initially this program will not produce any summary information. The user must select the extend of information he desires by entering the proper command. If later in the session he wants to exclude some or all of the information requested, he can do so by entering the proper command prefixed by "X".

4.2.2.12.4 SAMPLE OF AN INTERACTIVE SESSION

```
@ATS

AEROS TERMINAL SYSTEM (V.1)  DATE: 03/19/76      TIME: 10:36:08

ARE YOU USING A CRT TERMINAL? ( YES OR NO )
=NO
DO YOU WISH FOR INSTRUCTIONS? ( YES OR NO )
=YES

THE AEROS TERMINAL SYSTEM PROVIDES ACCESS TO THE AIR
QUALITY AND EMISSIONS DATA (SAROAD AND NEDS) THROUGH
THE FUNCTIONS LISTED BELOW. EACH FUNCTION DEFINES THE
SUB-SYSTEM AND THE MODE OF ACCESS. THIS IS INDICATED
BY THE FOLLOWING NOTATION:
    S = SAROAD
    N = NEDS
    I = INTERACTIVE ACCESS
   RB = REMOTE BATCH ACCESS
THE FOLLOWING IS THE LIST OF LEGAL FUNCTONS.
    PS   - POINT SOURCE               (N, RB)
    AS   - AREA SOURCE                (N, RB)
    FS   - AREA SOURCE FUEL SUMMARY   (N, RB)
    ES   - EMISSIONS SUMMARY REPORT   (N, RB)
    PO   - POLLUTANT NAMES            (S, I)
    QS   - QUARTERLY SUMMARIES        (S, I)
    SI   - SITE DESCRIPTIONS          (S, I)
    UN   - UNIT TABLE                 (S, I)
    YS   - YEARLY SUMMARIES           (S, I)
    HELP - DESCRIPTION OF FUNCTIONS
    END  - END TERMINAL SESSION
FUNCTION?
=QS


AIR POLLUTION QUARTERLY DATA SUMMARY

THIS PROGRAM REPORTS THE SELECTED SUMMARY INFORMATION FOR
ANY SITE FOR THE POLLUTANTS SPECIFIED. IF YOU WISH A SHORT
DESCRIPTION OF THE COMMANDS, REPLY YES -- OTHERWISE REPLY NO
YES OR NO?
=YES
```

```
THE VALID SITE-POLLUTANT COMMANDS ARE:

'STATE=??'        THE STATE DESIRED
'AREA=????'       THE CODE NUMBER FOR THE CITY OR COUNTY
'SITE=???'        THE SITE NUMBER WITHIN THE AREA
'AGENCY=?'        THE CODE FOR THE SPONSORING AGENCY
'PROJECT=??'      THE CODE FOR THE TYPE OF SAMPLING
'POLLUTANT=?????' THE CODE FOR THE DESIRED POLLUTANT
'METHOD=??'       THE CODE FOR THE SAMPLING METHOD
'INTERVAL=?'      THE CODE FOR THE SAMPLING INTERVAL
'YEAR=??'         THE YEAR DESIRED
'QUARTER=??'      THE QUARTER DESIRED
'KEY=????????????????????????' (24 CHARACTERS) THE
                  COMPLETE KEY DESIRED IN THE ORDER GIVEN
                  ABOVE
'FIND'            GET THE INVENTORY FOR THE SPECIFIED
                  SITE-POLLUTANT-YEAR COMBINATION
'NEXT ??'         GET THE INVENTORY FOR THE NEXT
                  SEQUENTIAL SITE-POLLUTANT-YEAR.
                  ?? IS THE NUMBER RECORDS WANTED.
                  IF ??=IS ENTERED AS BLANKS, 01 IS ASSUMED.
                  OTHERWISE, ?? MUST BE A 2 DIGIT NUMBER.
'END'             SIGNALS END OF SESSION, PROGRAM ENDS

THE VALID SUMMARY INFORMATION COMMANDS ARE:

'ALL'             ALL STATISTICS ARE DESIRED
'OBSERV'          THE NUMBER OF OBSERVATIONS
'MAX'             THE MAXIMUM VALUE ENCOUNTERED
'MIN'             THE MINIMUM VALUE ENCOUNTERED
'ZOBSERV'         THE PER CENT OF POSSIBLE OBSERVATIONS
                  THAT ARE PRESENT
'ZSUB'            ONE HALF THE MINIMUM DETECTABLE
'ZCNT'            THE NUMBER OF TIMES VALUES OCCURRED
                  THAT WERE LESS THAN THE MINIMUM
                  DETECTABLE
'MT'              TIME MAXIMUM OCCURRED (MM:DA:HR)
'ST'              TIME SECOND MAXIMUM OCCURRED (MM:DA:HR)
'SM'              SECOND MAXIMUM VALUE'

FOR INTERVALS OTHER THAN Y OR Z --

'AMEAN'           THE ARITHMETIC MEAN. THIS VALUE IS
                  BLANK FOR NON-CRITERIA DATA.
```

```
 'GMEAN'         THE GEOMETRIC MEAN. THIS VALUE IS
                 BLANK FOR NON-CRITERIA DATA.
 'ASTDEV'        THE ARITHMETIC STANDARD DEVIATION.
                 THIS VALUE IS BLANK FOR NON-CRITERIA DATA
 'GSTDEV'        THE GEOMETRIC STANDARD DEVIATION. THIS
                 VALUE IS BLANK FOR NON-CRITERIA DATA.
 'PV'            NUMBER OF PRIMARY VIOLATIONS
                 (BLANK IF NO STANDARD)
 'SV'            NUMBER OF SECONDARY VIOLATIONS
                 (BLANK IF NO STANDARD)

 FOR Y AND Z INTERVALS ONLY --

 'NP'            NUMBER OF NON-OVERLAPPING PRIMARY
                 VIOLATIONS (BLANK IF INTERVAL NOT
                 EQUAL TO Z OR Y)
 'NS'            NUMBER OF NON-OVERLAPPING
                 VIOLATIONS
 'OP'            NUMBER OF OVERLAPPING VALUES THAT
                 EXCEED THE PRIMARY STANDARD
 'OS'            NUMBER OF OVERLAPPING VALUES THAT
                 EXCEED THE SECONDARY STANDARD

INITIALLY THE PROGRAM IS SET UP NOT TO PRINT ANY OF THE
SUMMARY INFORMATION. TO REQUEST THE INFORMATION ENTER THE
CORRECT COMMAND. IF AT A LATER DATE IN THE PROGRAM YOU NO
LONGER WANT THIS INFORMATION ENTER THE COMMAND PREFIXED
BY THE LETTER X. FOR ANY COMMAND EXCEPT THE NEGATIVE
SUMMARY INFORMATION COMMAND, YOU MAY ENTER THE ENTIRE
COMMAND OR THE FIRST TWO (2) CHARACTERS. FOR THE NEGATIVE
SUMMARY INFORMATION COMMANDS, THREE (3) CHARACTERS ARE
REQUIRED, SUCH AS XMA FOR 'NO MAXIMUM TO BE PRINTED'.
IF A MATCH IS NOT FOUND FOR A SITE-POLLUTANT-DATE
COMBINATION THE FACT IS INDICATED AND YOU MAY ENTER A
NEW COMBINATION OR REQUEST THE NEXT SEQUENTIAL COMBINATION.
START ENTERING COMMANDS
COMMAND?
=ALL

ALL
COMMAND?
=NEXT
```

```
SITE CODE=020160002C01                                  POLL/ME/UN=421011105                         UNITS  INT  YR  QR
FAIRBANKS              ,ALASKA                          CARBON    MONOXIDE                             05    1   74  04
                                                        INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                              1287        MAXIMUM=                          31.0
MINIMUM=                                       .6        ARITH. MEAN=
GEOM. MEAN=                                              ARITH. STANDARD DEVIATION=
GEOM. STANDARD DEVIATION=                                PERCENT OBSERVATIONS=             58.28
SUBSTITUTE VALUE =                             .2        # SUBSTITUTES MADE=                   0
# PRIMARY VIOLATIONS=                           0        # SECONDARY VIOLATIONS=               0
TIME MAXIMUM OCCURRED=                   11:13:14        TIME SECOND MAXIMUM OCCURED=   10:25:16
SECOND MAXIMUM VALUE=                        29.9
COMMAND?
=KEY=020160002C014210111Z7202


...PLETE KEY= '020160002C014210111Z7202'
COMMAND?
=FIND



SITE CODE=020160002C01                                  POLL/ME/UN=421011105                         UNITS  INT  YR  QR
FAIRBANKS              ,ALASKA                          CARBON    MONOXIDE                             05    Z   72  02
                                                        INSTRUMENTAL  NONDISPERSIVE INFRA-RED
# OBSERVATIONS=                              .779        MAXIMUM=                          17.5
MINIMUM=                                       .5        SUBSTITUTE VALUE =                   .5
# SUBSTITUTES MADE=                             0        # NON-OVLP PRI-VIOLATIONS =           0
# NON-OVLP SEC-VIOLATIONS =                     0        TIME MAXIMUM OCCURRED=         04:01:20
TIME SECOND MAXIMUM OCCURRED=      04:03:[illegible]        SECOND MAXIMUM VALUE=            14.9
# OVLP VALS EXCEEDING PRIMARY=                  4
COMMAND?

  ...AND?
  --

[illegible]

 COMMAND?
 =NEXT
```

```
SITE CODE=010020001F01                      POLL/ME/UN=111019101                      UNITS  INT  YR  QR
ABBEVILLE             ,ALABAMA              SUSPENDED PART.                             01    7   74  01
                                            HI-VOL  GRAVIMETRIC


COMMAND?
=ALL

ALL
COMMAND?
=XOB

XOB
COMMAND?
=XNI

XNI
COMMAND?
=NEXT



SITE CODE=010020001F01                      POLL/ME/UN=111019101                      UNITS  INT  YR  QR
ABBEVILLE             ,ALABAMA              SUSPENDED PART.                             01    7   74  02
                                            HI-VOL  GRAVIMETRIC
MAXIMUM=                              104    ARITH. MEAN=                        51
GEOM. MEAN=                            46    ARITH. STANDARD DEVIATION=      28.218
GEOM. STANDARD DEVIATION=           1.685    PERCENT OBSERVATIONS=
SUBSTITUTE VALUE =                      1    # SUBSTITUTES MADE=                  0
# PRIMARY VIOLATIONS=                   0    # SECONDARY VIOLATIONS=              0
TIME MAXIMUM OCCURRED=           04:01:00    TIME SECOND MAXIMUM OCCURED=  04:01:00
SECOND MAXIMUM VALUE=                 104
COMMAND?
=END

QUARTERLY SUMMARY REQUESTS COMPLETED, ENTER NEXT FUNCTION YOU WISH TO ACCESS.
FUNCTION?
=END

   SESSION
```

Routine publications are defined as publications of a more permanent nature than those usually associated with computer-based reporting. They are typically published at regular intervals, either quarterly or annually, and most are permanently bound, printed volumes. In some cases, they consist of updated, verified, and corrected emissions or air quality data reports; others are digests or summaries of edited raw data.

Although EPA publishes a large number of documents each year, in this section only those based on data from the NEDS, SAROAD, or other AEROS subsystems are discussed. The preliminary reports are more informal in their organization, method of preparation, and type of binding; the final reports are prepared as permanent reference works. Some of the reports described in the following paragraphs are prepared by a computerized phototypesetting process known as LINOTRON. Others are printed by a photo offset process directly from computer printout or typewriter copy.

The emissions data publications are routine publications of emissions and fuel usage information. They are derived almost entirely from the NEDS data base. The publications included in this category are as follows:

National Emissions Report - a report of emissions of the criteria pollutants, broken down by emission category and by geographic region. (Printed by LINOTRON)

Fuel Usage Report - a report of fuel usage, broken down geographically and by fuel type and usage category.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** ROUTINE PUBLICATIONS	**SECTION** 5	**CHAPTER** 1	**SUBJECT** 1
NATIONAL AIR DATA BRANCH	**CHAPTER** EMISSIONS DATA	**DATE** 9/30/75	**PAGE** 1	
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** NATIONAL EMISSIONS REPORT (NER)			

5.1.1.1 GENERAL DESCRIPTION

This document, published annually by EPA, contains a NEDS emission summary report for each of the 55 "states" and each of the 247 Air Quality Control Regions (AQCR's) in the United States. The 1972 National Emissions Report (NER) was published in June 1974. The ordering of the tables of emissions that constitute the body of the document is as follows:

a. Summary for the United States.

b. Summary tables for each state in alphabetical order.

c. After each State Summary Table, the tables for each AQCR or portion of an (interstate) AQCR lying within that state are given in numerical order.

d. After the last individual state and its AQCR, the tables for all of the interstate AQCR's, each one in its entirety, appear in numerical order.

The individual tables are arranged according to the major categories of sources of emissions of the five pollutatns for which national standards have been promulgated.* The five major source categories are:

a. Fuel Combustion

b. Industrial Processing

c. Solid Waste Disposal

d. Transportation

e. Miscellaneous

The five "criteria" pollutants are:

a. Particulates

b. Sulfur Oxides

c. Nitrogen Oxides

d. Hydrocarbons

e. Carbon Monoxide

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*A sixth substance, photochemical oxidants, is also considered to be a "criteria" pollutant because ambient air quality standards have been promulgated for it. Because it is a secondary or derived pollutant, however, no emissions standards exist as such.

The data in this document were compiled from source information of the National Emissions Data System (NEDS). Brief discussions of the NEDS basic elements used for the generation of the NER are included in the introduction to the document.

5.1.1.2 SAMPLE REPORT

Figure 5.1.1.a gives examples of the national, state, and AQCR-wide summaries described above. Note the order in which the tables for the two parts of the interstate AQCR appear, each portion in its own state's area of the NER document. The entire AQCR is summarized in its proper numerical order at the end of the document.

UNITED STATES

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydrocarbons	Carbon monoxide
GRAND TOTAL	18,566,748	33,023,487	24,051,210	26,632,852	101,693,648
-AREA	3,891,673	4,149,492	10,380,875	19,803,952	82,705,714
-POINT	14,675,075	28,873,995	13,670,335	6,828,900	18,987,934
FUEL COMBUSTION-AREA	2,217,301	3,475,451	1,486,484	255,225	668,638
-POINT	5,263,555	21,986,035	10,765,754	217,234	511,267
External Combustion-area	2,217,301	3,475,451	1,486,484	255,225	668,638
-point	5,257,045	21,967,587	9,847,280	173,050	472,428
Residential Fuel-area	299,520	894,510	292,572	137,801	591,634
Anthracite Coal	14,070	36,592	4,221	3,510	120,634
Bituminous Coal	81,291	312,305	12,196	81,291	365,800
Distillate Oil	87,420	470,855	102,514	25,628	42,714
Residual Oil	9,167	62,984	15,942	1,196	80
Natural Gas	51,029	1,611	134,287	21,486	53,715
Wood	56,535	1,171	23,414	6,681	4,681
Electric Generation-point	3,384,726	17,388,808	5,080,746	72,298	234,505
Anthracite Coal	19,420	54,891	13,700	165	3,635
Bituminous Coal	3,223,766	15,554,248	3,852,019	52,535	165,981
Lignite	56,973	107,023	64,311	923	3,122
Residual Oil	52,981	1,570,488	773,177	15,661	23,190
Distillate Oil	2,157	21,210	37,173	671	990
Natural Gas	25,600	19,744	1,104,415	2,089	36,137
Process Gas	590	14,113	31,704	182	788
Coke	440	37,602	3,358	6	187
Solid Waste/Coal	751	0	302	63	295
Other					
Industrial Fuel-area	1,604,488	1,382,156	599,993	79,606	29,204
-point	1,777,004	3,302,676	3,906,712	97,066	230,662
Anthracite Coal-area	108	152	80	1	11
-point	6,200	7,180	3,207	34	1,663
Bituminous Coal-area	1,536,029	1,050,041	292,890	13,527	27,053
-point	1,200,691	2,369,034	545,182	17,513	54,810
Lignite-point	13,239	4,917	3,126	210	421
Residual Oil-area	28,916	273,006	75,492	1,775	292
-point	60,424	841,155	206,827	11,467	11,163
Distillate Oil-area	13,120	49,636	52,479	2,624	175
-point	20,531	38,207	50,620	4,320	3,663
Natural Gas-area	26,830	895	268,306	59,641	506
-point	29,299	16,287	354,160	11,177	28,088
Process Gas-area	6	0	71	12	0
-point	108,923	123,981	2,381,326	13,161	68,525
Coke-point	2,044	24,795	3,003	40	406
Wood-area	1,451	29	580	116	116
-point	211,731	17,555	137,601	30,700	43,838
Liquid Petroleum Gas-point	315	23,388	4,964	132	653
Bagasse-point	41,958	0	5,490	5,499	5,499
Other-point	7,931	15,659	3,109	2,812	7,935
Commercial-Institutional Fuel-area	313,293	1,098,776	593,919	37,727	46,801
-point	75,315	176,505	59,823	3,606	7,261
Anthracite Coal-area	1,428	3,880	1,461	29	877
-point	6,798	2,622	824	51	284
Bituminous Coal-area	154,062	234,544	28,247	6,141	22,106
-point	52,185	82,613	17,158	1,249	3,313
Lignite-point	4,229	2,930	1,015	75	204
Residual Oil-area	67,358	701,296	175,717	8,786	586
point	7,248	79,949	18,650	884	1,149
Distillate Oil-area	89,237	258,386	276,909	13,867	923
-point	1,024	5,929	4,350	206	285
Natural Gas-area	21,192	669	111,538	8,923	22,908
-point	3,130	2,404	17,088	1,060	1,881
Wood-area	15	0	6	7	1
-point	672	55	656	146	131
Liquid Petroleum Gas-point	14	1	78	6	15
Miscellaneous-point					
Internal Combustion-point	6,510	18,650	918,474	44,184	38,839
Electric Generation	3,519	5,640	51,288	1,527	3,126
Distillate Oil	3,205	4,631	26,114	281	18
Natural Gas	87	554	19,609	190	90
Diesel Fuel	176	356	4,911	609	2,963
Industrial Fuel	2,703	10,565	865,375	41,878	33,776
Distillate Oil	497	842	4,936	282	907
Natural Gas	1,651	9,532	857,712	40,597	28,490
Gasoline	11	5	282	691	2,611
Diesel Fuel	86	167	2,342	249	1,667
Other	458	18	123	138	332
Commercial-Institutional	47	97	1,328	133	[illegible]
Diesel Fuel	47	97	1,328	133	[illegible]
Other					
Engine-Testing	241	148	482	646	1,132
Aircraft	241	148	482	646	1,132
Other					
Miscellaneous					
INDUSTRIAL PROCESS-POINT	9,265,430	6,753,242	2,876,497	6,450,840	17,669,013
Chemical Manufacturing	225,865	606,367	151,033	2,369,685	6,010,714
Food/Agriculture	401,505	1,659	463	31,602	1,336
Primary Metal	1,691,035	3,637,000	27,787	114,778	4,100,430
Secondary Metals	191,510	103,514	2,925	5,374	1,506,070
Mineral Products	5,211,900	640,210	142,701	11,732	25,316
Petroleum Industry	971,441	1,676,430	2,503,111	979,630	4,888,029
Wood Products	460,852	107,823	2,931	25,077	857,640
Evaporation	1,022	2,120	612	2,774,657	2,149
Metal Fabrication	3,924	1,069	290	1,861	38
Leather Products	59	26	4	418	0
Textile Manufacturing	506	38	18	7,339	1
Inprocess Fuel	87,330	60,496	36,885	22,880	38,092
Other/Not Classified	9,293	20,408	7,750	105,397	31,192
SOLID WASTE DISPOSAL-AREA	717,890	49,287	151,843	1,488,391	3,974,054
-POINT	166,020	56,609	28,084	160,886	1,087,654
Government-point	72,526	9,474	14,507	58,659	213,237
Municipal Incineration	49,780	8,084	6,495	17,472	95,577
Open Burning	22,070	1,346	8,003	40,869	116,348
Other	675	43	98	317	1,312
Residential-area	341,503	11,830	57,141	976,516	2,787,253
On Site Incineration	207,577	3,660	6,919	691,924	2,075,773
Open Burning	133,926	8,170	50,222	284,592	711,480
Commercial-Institutional-area	75,365	7,052	20,446	111,697	263,627
-point	2,951	870	850	1,678	12,610
On Site Incineration-area	37,680	4,685	6,247	31,233	62,466
-point	1,435	869	652	1,323	8,363
Open Burning-area	37,866	2,367	14,200	80,464	201,161
point	1,442	0	170	190	4,243
Apartment-point	30	1	9	15	24
Other-point	44	0	19	0	0
Industrial-area	301,042	30,406	74,256	400,178	923,174
-point	90,504	26,345	12,638	100,550	781,887
On Site Incineration-area	185,447	23,181	30,908	154,539	309,079
-point	75,609	21,884	9,459	63,214	732,914
Open Burning-area	115,596	7,225	43,348	245,638	614,095
-point	12,980	348	2,939	37,123	48,406
Auto Body Incineration-point	55	0	2	8	42
Other-point	2,099	4,113	238	205	447
Miscellaneous-point					
TRANSPORTATION-AREA	773,643	624,755	8,721,038	16,278,605	77,417,707
Land Vehicles	523,563	508,209	8,515,400	14,613,519	76,005,100
Gasoline	409,020	245,806	6,615,686	14,333,123	74,821,954
Light Vehicles	359,980	215,988	5,159,706	10,981,127	59,529,745
Heavy Vehicles	33,273	19,964	1,109,090	2,262,091	9,320,184
Off Highway	15,768	9,855	346,890	1,089,944	5,972,025
Diesel Fuel	114,523	262,403	1,899,714	280,396	1,183,146
Heavy Vehicles	42,593	85,186	1,206,805	120,681	709,885
Off Highway	18,739	38,919	553,335	53,333	324,325
Rail	53,191	138,297	139,574	106,382	148,935
Aircraft	226,513	45,175	121,615	551,421	975,558
Military	156,563	29,896	75,213	364,265	391,015
Civil	9,501	1,887	8,583	42,079	240,609
Commercial	60,449	13,392	37,819	145,077	344,894
Vessels	23,506	71,371	84,022	102,173	437,090
Bituminous Coal	1,273	3,181	191	1,273	5,729
Diesel Fuel	14,292	37,139	42,876	28,584	40,017
Residual Oil	6,908	30,383	18,230	912	61
Gasoline	1,033	666	22,726	71,405	391,283
Gas Handling Evaporation Loss	0	0	0	1,011,491	0
MISCELLANEOUS-AREA	182,839	0	21,510	1,781,671	645,315
Slash Burning	182,839	0	21,510	215,105	645,315
Solvent Evaporation Loss	0	0	0	1,566,566	0
MISCELLANEOUS-POINT	70	26	0	0	0

Figure 5.1.1.a. National Emissions Report

OHIO

Emission categories	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
	Pollutant, tons per year				
GRAND TOTAL	1,946,743	3,285,255	1,214,163	1,271,508	5,738,323
-AREA	492,906	401,632	556,745	1,078,272	4,277,085
-POINT	1,453,837	2,883,622	657,418	193,236	1,461,238
FUEL COMBUSTION-AREA	417,216	373,186	110,465	17,655	48,036
-POINT	658,033	2,725,821	604,669	11,174	33,136
External Combustion-area	417,216	373,186	110,465	17,655	48,036
-point	658,021	2,725,810	604,426	10,846	33,067
Residential Fuel-area	13,843	41,175	15,866	8,822	36,377
Anthracite Coal	330	141	99	83	2,974
Bituminous Coal	6,103	28,217	915	6,103	27,464
Distillate Oil	2,321	12,663	2,785	696	1,160
Residual Oil	0	0	0	0	0
Natural Gas	4,495	142	11,830	1,893	4,732
Wood	594	12	237	47	47
Electric Generation-point	360,088	2,019,070	391,051	5,530	18,294
Anthracite Coal	657	6,353	855	13	488
Bituminous Coal	359,309	2,011,918	384,708	5,488	17,661
Lignite	0	0	0	0	0
Residual Oil	18	426	169	7	9
Distillate Oil	14	370	794	15	21
Natural Gas	90	3	3,723	6	98
Process Gas	0	0	801	1	17
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	364,627	261,455	64,275	6,242	6,381
-point	283,624	682,515	208,334	5,031	13,864
Anthracite Coal-area	0	0	0	0	0
-point	8	739	61	1	36
Bituminous Coal-area	362,393	258,263	47,349	3,170	6,340
-point	274,492	622,373	97,757	3,469	8,714
Lignite-point	577	605	85	6	11
Residual Oil-area	0	0	0	0	0
-point	1,191	12,937	3,223	160	187
Distillate Oil-area	935	3,149	3,761	187	12
-point	104	314	1,087	34	69
Natural Gas-area	1,298	43	12,984	2,885	29
-point	1,638	1,185	16,321	186	655
Process Gas-area	0	0	0	0	0
-point	5,863	41,833	89,680	1,146	4,173
Coke-point	1,654	2,522	74	1	10
Wood-area	0	0	0	0	0
-point	98	7	44	9	9
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	38,746	70,556	30,323	2,590	5,277
-point	12,308	24,225	4,841	284	909
Anthracite Coal-area	0	0	0	0	0
-point	32	1,295	65	2	108
Bituminous Coal-area	32,816	52,059	5,866	1,275	4,591
-point	12,092	21,979	4,237	230	743
Lignite-point	30	141	6	3	10
Residual Oil-area	0	0	0	0	0
-point	100	690	264	13	17
Distillate Oil-area	5,345	18,479	21,381	1,069	71
-point	32	119	135	6	9
Natural Gas-area	585	18	3,077	246	615
-point	22	1	118	9	22
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	12	12	243	329	70
Electric Generation	4	3	27	0	0
Distillate Oil	4	3	27	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	9	8	216	329	70
Distillate Oil	0	0	0	1	0
Natural Gas	0	0	1	0	0
Gasoline	5	0	101	317	0
Diesel Fuel	4	8	115	11	70
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	790,132	153,070	51,831	177,736	1,415,801
Chemical Manufacturing	9,165	11,930	2,346	61,305	27,011
Food/Agriculture	6,114	0	0	119	18
Primary Metal	373,196	35,164	1,747	26,624	143,912
Secondary Metals	14,688	4,717	13	189	218,787
Mineral Products	365,828	9,240	809	26	37
Petroleum Industry	10,788	64,590	37,000	27,939	1,013,738
Wood Products	1,381	465	0	0	6,310
Evaporation	0	0	0	51,836	0
Metal Fabrication	2,304	1,068	22	5	0
Leather Products	0	0	0	0	0
Textile Manufacturing	11	0	0	2,850	0
Inprocess Fuel	3,273	9,976	2,621	6,198	5,819
Other/Not Classified	3,104	15,899	7,233	1,217	58
SOLID WASTE DISPOSAL-AREA	47,322	3,303	9,564	97,123	239,850
-POINT	5,672	4,731	918	4,125	13,898
Government-point	4,246	647	699	3,367	9,326
Municipal Incineration	3,767	618	519	2,469	6,781
Open Burning	479	30	180	898	2,545
Other	0	0	0	0	0
Residential-area	20,046	601	2,661	59,775	173,129
On Site Incineration	14,215	237	474	47,383	142,150
Open Burning	5,831	364	2,187	12,391	30,978
Commercial-Institutional-area	3,841	359	1,045	5,713	13,492
-point	187	21	32	210	1,147
On Site Incineration-area	1,896	237	316	1,580	3,160
-point	156	21	29	202	1,052
Open Burning-area	1,945	122	729	4,133	10,332
-point	32	0	4	8	95
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	23,435	2,344	5,858	31,636	73,230
-point	1,240	4,061	186	749	2,617
On Site Incineration-area	14,062	1,758	2,344	11,718	23,437
-point	252	4,048	73	208	524
Open Burning-area	9,373	586	3,515	19,917	49,793
-point	975	13	113	537	2,078
Auto Body Incineration-point	13	0	1	3	16
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	28,368	25,143	436,715	804,507	3,969,199
Land Vehicles	23,343	19,727	430,577	736,009	3,897,866
Gasoline	19,439	11,689	324,499	725,084	3,834,397
Light Vehicles	16,413	9,848	235,250	513,303	2,856,158
Heavy Vehicles	2,001	1,201	66,706	140,950	590,138
Off Highway	1,025	640	22,543	70,832	388,101
Diesel Fuel	3,904	8,038	106,078	10,925	63,469
Heavy Vehicles	2,167	4,334	61,404	6,140	36,120
Off Highway	1,550	3,219	44,115	4,412	26,827
Rail	186	485	559	373	522
Aircraft	3,146	652	1,995	8,725	26,808
Military	993	190	477	2,310	2,489
Civil	616	122	556	2,726	15,570
Commercial	1,537	341	962	3,689	8,749
Vessels	1,881	4,764	4,143	9,088	44,525
Bituminous Coal	1,177	2,942	177	1,177	5,296
Diesel Fuel	495	1,288	1,486	990	1,387
Residual Oil	108	471	283	14	1
Gasoline	100	62	2,198	6,906	37,842
Gas Handling Evaporation Loss	0	0	0	50,685	0
MISCELLANEOUS-AREA	0	0	0	158,987	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	158,987	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

AQCR 174 GREATER METROPOLITAN CLEVELAND (OHIO)

Emission categories	Particulates	Sulfur oxides	Nitrogen oxides	Hydrocarbons	Carbon monoxide
	Pollutant, tons per year				
GRAND TOTAL	359,309	732,219	291,039	404,965	1,960,828
-AREA	175,809	163,360	165,565	354,990	1,734,470
-POINT	183,500	568,859	125,474	49,975	226,358
FUEL COMBUSTION-AREA	151,133	154,963	37,025	4,531	9,772
-POINT	108,801	315,741	112,186	3,168	8,231
External Combustion-area	151,133	154,963	37,025	4,531	9,772
point	108,798	315,741	112,085	2,850	8,231
Residential Fuel-area	2,906	6,297	4,845	1,596	5,718
Anthracite Coal	42	0	13	11	302
Bituminous Coal	784	4,144	118	784	3,528
Distillate Oil	423	2,102	507	127	211
Residual Oil	0	0	0	0	0
Natural Gas	1,588	50	4,179	669	1,672
Wood	69	1	27	5	5
Electric Generation-point	31,874	298,490	55,070	1,037	3,233
Anthracite Coal	0	0	0	0	0
Bituminous Coal	31,867	298,316	54,690	1,029	3,222
Lignite	0	0	0	0	0
Residual Oil	0	69	46	1	1
Distillate Oil	7	105	333	6	10
Natural Gas	0	0	0	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	135,889	121,724	27,566	2,114	2,380
-point	72,184	208,766	55,711	1,719	4,785
Anthracite Coal-area	0	0	0	0	0
point	0	0	0	0	0
Bituminous Coal-area	134,952	120,577	17,152	1,143	2,287
-point	70,188	205,450	32,181	1,331	3,046
Lignite-point	577	605	85	6	11
Residual Oil-area	0	0	0	0	0
-point	317	2,198	826	41	55
Distillate Oil-area	337	1,134	1,309	67	4
-point	23	150	187	9	12
Natural Gas-area	600	14	4,066	903	9
-point	96	3	1,177	50	90
Process Gas-area	0	0	0	0	0
-point	992	958	21,256	277	1,570
Coke-point	0	0	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	12,331	26,962	9,614	821	1,674
point	5,541	8,486	1,304	95	214
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	10,651	21,333	1,864	404	1,456
point	5,427	7,984	995	75	174
Lignite-point	30	141	6	3	10
Residual Oil-area	0	0	0	0	0
point	46	256	120	6	8
Distillate Oil-area	1,495	5,601	6,779	339	23
-point	23	96	93	9	6
Natural Gas-area	185	6	976	78	195
-point	15	0	91	6	15
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	3	0	101	317	0
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	3	0	101	317	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Gasoline	3	0	101	317	0
Diesel Fuel	0	0	0	0	0

Emission categories	Particulates	Sulfur oxides	Nitrogen oxides	Hydrocarbons	Carbon monoxide
	Pollutant, tons per year				
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	73,166	32,920	13,093	46,098	232,966
Chemical Manufacturing	4,036	8,213	514	7,913	1,120
Food/Agriculture	186	0	0	119	0
Primary Metal	26,110	17,385	1,995	11,119	56,255
Secondary Metals	2,069	1,868	0	109	101,287
Mineral Products	38,205	1,357	903	19	2
Petroleum Industry	370	2,728	632	148	60,000
Wood Products	0	0	0	0	0
Evaporation	0	0	0	23,025	0
Metal Fabrication	11	1,064	3	1	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	1,100	6,613	2,612	2,755	5,009
Other/Not Classified	1,050	11,669	7,233	1,217	30
SOLID WASTE DISPOSAL-AREA	16,329	1,181	3,365	32,569	86,483
-POINT	1,611	198	195	310	3,183
Government-point	1,496	179	175	193	3,002
Municipal Incineration	1,475	177	167	154	2,892
Open Burning	21	1	8	39	110
Other	0	0	0	0	0
Residential-area	6,368	190	843	18,929	54,821
On Site Incineration	4,501	75	150	15,002	45,007
Open Burning	1,867	115	693	3,925	9,813
Commercial-Institutional-area	1,215	113	331	1,807	4,738
-point	75	12	10	74	182
On Site Incineration-area	600	75	100	500	1,000
-point	74	12	10	74	98
Open Burning-area	615	38	231	1,307	3,738
-point	1	0	0	0	4
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	8,766	877	2,191	11,834	27,394
-point	40	7	10	45	79
On Site Incineration-area	5,260	657	877	4,383	8,766
-point	26	7	9	35	45
Open Burning-area	3,506	219	1,315	7,451	18,628
-point	13	0	2	10	33
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	8,347	7,216	126,076	243,584	1,228,215
Land Vehicles	6,915	5,462	124,834	224,560	1,213,600
Gasoline	5,095	3,362	97,502	221,519	1,197,356
Light Vehicles	5,009	3,053	72,938	163,655	932,039
Heavy Vehicles	602	181	20,053	43,690	188,766
Off Highway	205	128	4,511	14,174	77,062
Diesel Fuel	1,820	2,100	27,332	2,841	16,158
Heavy Vehicles	665	1,291	18,288	1,829	10,720
Off Highway	312	648	8,870	888	5,399
Rail	62	162	186	124	136
Aircraft	912	203	625	3,550	8,307
Military	8	2	4	19	28
Civil	155	31	140	686	3,958
Commercial	749	170	481	2,846	4,376
Vessels	500	1,371	397	1,233	6,252
Bituminous Coal	384	960	58	386	1,780
Diesel Fuel	29	76	86	57	80
Residual Oil	76	329	197	10	1
Gasoline	12	7	236	884	4,408
Gas Handling Evaporation Loss	0	0	0	15,419	0
MISCELLANEOUS-AREA	0	0	0	74,386	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	74,386	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

AQCR 178 NORTHWEST PENNSYLVANIA-YOUNGSTOWN (OHIO-PENN) PORTION IN OHIO

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydrocarbons	Carbon monoxide
GRAND TOTAL	189,484	237,627	100,382	80,687	331,522
-AREA	40,185	27,075	34,601	61,668	257,613
-POINT	149,299	210,552	65,781	19,018	73,909
FUEL COMBUSTION-AREA	35,772	25,554	6,961	1,137	3,216
-POINT	71,535	190,625	65,641	925	2,909
External Combustion-area	35,772	25,554	6,961	1,137	3,216
-point	71,531	190,617	65,526	914	2,839
Residential Fuel-area	892	2,623	953	580	2,474
Anthracite Coal	23	141	7	6	207
Bituminous Coal	425	1,937	64	425	1,913
Distillate Oil	147	536	177	44	74
Residual Oil	0	0	0	0	0
Natural Gas	263	8	693	111	277
Wood	34	1	13	3	3
Electric Generation-point	11,351	110,141	23,796	225	750
Anthracite Coal	0	0	0	0	0
Bituminous Coal	11,351	110,141	23,785	225	749
Lignite	0	0	0	0	0
Residual Oil	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	10	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	31,965	18,848	4,199	396	428
-point	60,116	80,155	41,709	678	2,135
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	31,826	18,713	3,190	213	425
-point	56,539	80,325	11,731	275	776
Lignite-point	0	0	0	0	0
Residual Oil-area	0	0	0	0	0
-point	115	474	300	15	1
Distillate Oil-area	63	133	251	13	1
-point	11	31	43	2	0
Natural Gas-area	76	3	758	168	2
-point	465	14	5,960	76	399
Process Gas-area	0	0	0	0	0
-point	1,302	2,908	23,675	309	960
Coke-point	1,394	2,409	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	2,915	4,083	1,808	154	315
-point	64	321	21	10	34
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	2,562	3,185	350	76	274
-point	64	321	20	10	34
Lignite-point	0	0	0	0	0
Residual Oil-area	0	0	0	0	0
-point	0	0	0	0	0
Distillate Oil-area	319	897	1,275	66	4
-point	0	0	1	0	0
Natural Gas-area	35	1	183	15	37
-point	0	0	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	4	8	115	11	70
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	4	8	115	11	70
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	1	0	0
Gasoline	0	0	0	0	0
Diesel Fuel	4	8	115	11	70

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydrocarbons	Carbon monoxide
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	77,291	13,896	76	17,810	69,829
Chemical Manufacturing	589	0	0	250	1,795
Food/Agriculture	0	0	0	0	0
Primary Metal	68,714	8,708	70	6,913	67,266
Secondary Metals	155	0	0	0	768
Mineral Products	5,708	0	6	[illegible]	0
Petroleum Industry	0	0	0	0	0
Wood Products	0	0	0	0	0
Evaporation	0	0	0	7,432	0
Metal Fabrication	0	0	0	0	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	2,000	917	0	3,261	0
Other/Not Classified	2,054	4,290	0	6	0
SOLID WASTE DISPOSAL-AREA	2,776	163	559	5,724	15,334
-POINT	473	32	63	254	1,091
Government-point	267	21	17	13	297
Municipal Incineration	267	21	17	13	297
Open Burning	0	0	0	0	0
Other	0	0	0	0	0
Residential-area	1,190	36	157	3,552	10,290
On Site Incineration	666	14	28	2,821	8,463
Open Burning	544	21	129	731	1,827
Commercial-Institutional-area	228	21	62	339	880
-point	18	3	4	18	91
On Site Incineration-area	113	14	19	94	188
-point	18	3	4	18	91
Open Burning-area	115	7	43	245	612
-point	0	0	0	0	0
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	1,358	136	330	1,833	4,244
-point	238	8	43	224	701
On Site Incineration-area	815	102	136	679	1,358
-point	17	3	3	15	22
Open Burning-area	543	34	204	1,154	2,886
-point	221	5	40	209	679
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	1,617	1,328	27,082	48,794	239,082
Land Vehicles	1,419	1,238	26,626	44,146	232,268
Gasoline	1,184	712	19,707	43,433	228,101
Light Vehicles	1,012	607	14,500	33,433	173,770
Heavy Vehicles	125	75	4,160	8,737	36,465
Off Highway	47	29	1,038	3,263	17,877
Diesel Fuel	235	526	6,919	713	4,167
Heavy Vehicles	129	298	3,658	166	2,152
Off Highway	113	215	3,223	522	1,980
Rail	13	13	38	25	35
Aircraft	172	33	105	465	1,318
Military	72	14	34	167	170
Civil	29	6	26	129	736
Commercial	71	16	44	170	403
Vessels	26	56	351	1,089	5,097
Bituminous Coal	0	0	0	0	0
Diesel Fuel	3	8	10	6	0
Residual Oil	9	38	23	1	0
Gasoline	14	9	319	1,081	5,097
Gas Handling Evaporation Loss	0	0	0	3,081	0
MISCELLANEOUS-AREA	0	0	0	6,104	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	6,104	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a.(continued). National Emissions Report

AQCR 178 NORTHWEST PENNSYLVANIA-YOUNGSTOWN (OHIO-PENN) PORTION IN PENNSYLVANIA

Emission categories	Pollutant, tons per year				
	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
GRAND TOTAL	131,549	295,932	105,639	78,128	364,399
-AREA	55,285	54,860	55,068	74,678	336,265
-POINT	76,264	241,073	50,571	3,450	28,134
FUEL COMBUSTION-AREA	51,521	49,347	13,342	3,271	10,486
-POINT	35,148	240,917	50,505	1,201	3,717
External Combustion-area	51,521	49,347	13,342	3,271	10,486
-point	35,148	240,917	50,505	1,201	3,717
Residential Fuel-area	2,704	9,248	1,494	2,233	9,573
Anthracite Coal	3	9	1	1	31
Bituminous Coal	2,016	7,660	302	2,016	9,071
Distillate Oil	221	1,566	265	66	110
Residual Oil	0	0	0	0	0
Natural Gas	332	10	873	140	349
Wood	132	3	53	11	11
Electric Generation-point	13,628	172,646	24,700	403	1,294
Anthracite Coal	874	4,471	729	7	18
Bituminous Coal	12,754	168,175	23,971	396	1,276
Lignite	0	0	0	0	0
Residual Oil	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	47,203	32,027	8,476	837	724
-point	21,394	68,287	25,271	745	2,290
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	46,545	27,211	5,371	358	716
-point	20,040	66,969	9,894	502	1,090
Lignite-point	0	0	0	0	0
Residual Oil-area	470	4,810	1,225	61	4
-point	31	1,041	148	7	10
Distillate Oil-area	0	0	0	0	0
-point	119	228	669	33	45
Natural Gas-area	188	6	1,880	418	4
-point	1,203	48	14,560	202	1,145
Process Gas-area	0	0	0	0	0
-point	0	0	0	0	0
Coke-point	0	0	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	1,614	7,872	3,372	200	189
-point	127	4	534	53	133
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	634	831	101	22	79
-point	0	0	0	0	0
Lignite-point	0	0	0	0	0
Residual Oil-area	554	5,676	1,446	72	5
-point	0	0	0	0	0
Distillate Oil-area	330	1,362	1,320	66	4
-point	0	0	0	0	0
Natural Gas-area	96	3	505	40	101
-point	127	4	534	53	133
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	0	0	0	0	0
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Gasoline	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	41,021	122	54	2,161	24,276
Chemical Manufacturing	240	0	28	1,181	0
Food/Agriculture	0	0	0	0	0
Primary Metal	1,124	0	0	0	2,811
Secondary Metals	991	0	10	0	0
Mineral Products	38,027	43	16	4	2
Petroleum Industry	199	79	0	0	21,462
Wood Products	23	0	0	0	0
Evaporation	15	0	0	976	0
Metal Fabrication	0	0	0	0	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	0	0	0	0	0
Other/Not Classified	0	0	0	0	0
SOLID WASTE DISPOSAL-AREA	406	28	40	846	2,373
-POINT	95	14	13	87	143
Government-point	0	0	0	0	0
Municipal Incineration	0	0	0	0	0
Open Burning	0	0	0	0	0
Other	0	0	0	0	0
Residential-area	206	3	7	680	2,060
On Site Incineration	206	3	7	680	2,060
Open Burning	0	0	0	0	0
Commercial-Institutional-area	27	3	4	22	45
-point	0	0	0	0	1
On Site Incineration-area	27	3	4	22	45
-point	0	0	0	0	1
Open Burning-area	0	0	0	0	0
-point	0	0	0	0	0
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	173	22	29	144	268
-point	95	14	12	87	142
On Site Incineration-area	173	22	29	144	268
-point	85	14	11	85	113
Open Burning-area	0	0	0	0	0
-point	10	0	1	2	29
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	3,460	5,485	41,686	69,268	323,406
Land Vehicles	2,655	2,938	40,012	64,279	322,449
Gasoline	1,892	1,136	30,172	62,508	316,160
Light Vehicles	1,705	1,023	24,444	50,204	262,329
Heavy Vehicles	143	86	4,775	9,300	37,429
Off Highway	43	27	953	2,995	16,412
Diesel Fuel	761	1,802	9,840	1,771	6,280
Heavy Vehicles	276	551	7,812	781	4,985
Off Highway	22	47	638	64	308
Rail	463	1,204	1,389	926	1,297
Aircraft	100	22	65	262	760
Military	5	1	2	12	12
Civil	11	2	10	48	277
Commercial	84	19	53	202	469
Vessels	607	2,524	1,609	201	188
Bituminous Coal	0	0	0	0	0
Diesel Fuel	65	170	196	131	183
Residual Oil	542	2,354	1,413	71	5
Gasoline	0	0	0	0	0
Gas Handling Evaporation Loss	0	0	0	4,524	0
MISCELLANEOUS-AREA	0	0	0	1,303	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	1,303	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

AQCR 178 NORTHWEST PENNSYLVANIA-YOUNGSTOWN (OHIO-PENN)

Emission categories	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
	Pollutant, tons per year				
GRAND TOTAL	331,033	533,559	206,021	158,825	696,922
-AREA	95,471	81,935	89,669	136,356	593,879
-POINT	235,562	451,624	116,352	22,468	103,043
FUEL COMBUSTION-AREA	87,294	74,901	20,302	4,407	13,702
-POINT	106,683	437,562	116,146	2,126	6,706
External Combustion-area	87,294	74,901	20,302	4,407	13,702
-point	106,679	437,554	116,030	2,115	6,636
Residential Fuel-area	3,596	11,871	2,447	2,822	12,048
Anthracite Coal	27	150	8	7	239
Bituminous Coal	2,441	9,597	366	2,441	10,986
Distillate Oil	368	2,102	441	110	184
Residual Oil	0	0	0	0	0
Natural Gas	595	19	1,565	250	626
Wood	166	3	66	13	13
Electric Generation-point	24,979	282,787	48,496	628	2,044
Anthracite Coal	874	4,471	729	7	18
Bituminous Coal	24,105	278,316	47,757	621	2,025
Lignite	0	0	0	0	0
Residual Oil	0	0	0	0	0
Distillate Oil	0	0	10	0	0
Natural Gas	0	0	0	0	0
Process Gas	0	0	0	0	0
Coke	0	0	0	0	0
Solid Waste/Coal	0	0	0	0	0
Other	0	0	0	0	0
Industrial Fuel-area	79,168	90,876	12,676	1,231	1,152
-point	81,510	154,442	66,988	1,423	4,425
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	78,371	45,924	8,561	571	1,141
-point	76,579	147,293	21,045	777	1,866
Lignite-point	0	0	0	0	0
Residual Oil-area	470	4,810	1,225	61	4
-point	146	1,515	648	22	11
Distillate Oil-area	63	133	251	13	1
-point	130	290	712	35	45
Natural Gas-area	264	9	2,638	586	6
-point	1,669	62	20,500	280	1,544
Process Gas-area	0	0	0	0	0
-point	1,392	2,986	23,675	309	960
Coke-point	1,594	2,405	0	0	0
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Bagasse-point	0	0	0	0	0
Other-point	0	0	0	0	0
Commercial-Institutional Fuel-area	4,530	12,154	5,180	355	506
-point	190	325	555	64	167
Anthracite Coal-area	0	0	0	0	0
-point	0	0	0	0	0
Bituminous Coal-area	3,196	4,216	450	98	353
-point	64	321	20	10	34
Lignite-point	0	0	0	0	0
Residual Oil-area	554	5,676	1,446	72	5
-point	0	0	0	0	0
Distillate Oil-area	669	2,250	2,595	130	0
-point	0	0	1	0	0
Natural Gas-area	131	4	688	55	138
-point	127	4	534	55	133
Wood-area	0	0	0	0	0
-point	0	0	0	0	0
Liquid Petroleum Gas-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
Internal Combustion-point	4	8	115	11	70
Electric Generation	0	0	0	0	0
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Industrial Fuel	4	8	115	11	70
Distillate Oil	0	0	0	0	0
Natural Gas	0	0	1	0	0
Gasoline	0	0	0	0	0
Diesel Fuel	4	8	115	11	70

Emission categories	Particulates	Sulfur oxides	Nitrogen oxides	Hydro-carbons	Carbon monoxide
	Pollutant, tons per year				
Other	0	0	0	0	0
Commercial-Institutional	0	0	0	0	0
Diesel Fuel	0	0	0	0	0
Other	0	0	0	0	0
Engine-Testing	0	0	0	0	0
Aircraft	0	0	0	0	0
Other	0	0	0	0	0
Miscellaneous	0	0	0	0	0
INDUSTRIAL PROCESS-POINT	118,312	14,016	130	20,000	94,104
Chemical Manufacturing	829	0	28	1,431	1,795
Food/Agriculture	0	0	0	0	0
Primary Metal	69,837	8,748	70	6,913	70,077
Secondary Metals	747	0	10	0	768
Mineral Products	42,337	63	22	4	2
Petroleum Industry	199	79	0	0	21,462
Wood Products	23	0	0	0	0
Evaporation	15	0	0	8,409	0
Metal Fabrication	0	0	0	0	0
Leather Products	0	0	0	0	0
Textile Manufacturing	0	0	0	0	0
Inprocess Fuel	2,060	917	0	3,243	0
Other/Not Classified	2,054	4,230	0	0	0
SOLID WASTE DISPOSAL-AREA	3,190	221	599	6,571	17,787
-POINT	568	46	76	342	1,236
Government-point	217	21	17	13	297
Municipal Incineration	217	21	17	13	297
Open Burning	0	0	0	0	0
Other	0	0	0	0	0
Residential-area	1,398	39	164	4,232	12,330
On Site Incineration	1,050	18	35	3,501	10,303
Open Burning	344	21	129	731	1,027
Commercial-Institutional-area	255	25	66	361	845
-point	18	3	4	16	93
On Site Incineration-area	140	17	23	116	233
-point	18	3	4	18	93
Open Burning-area	115	7	43	245	612
-point	0	0	0	0	0
Apartment-point	0	0	0	0	0
Other-point	0	0	0	0	0
Industrial-area	1,531	157	368	1,977	4,532
-point	332	22	55	311	843
On Site Incineration-area	988	123	165	823	1,646
-point	102	17	14	100	136
Open Burning-area	543	34	204	1,154	2,886
-point	231	5	41	211	707
Auto Body Incineration-point	0	0	0	0	0
Other-point	0	0	0	0	0
Miscellaneous-point	0	0	0	0	0
TRANSPORTATION-AREA	4,997	6,813	68,768	117,971	562,469
Land Vehicles	4,092	4,176	66,618	108,426	554,697
Gasoline	3,076	1,848	49,879	105,961	544,270
Light Vehicles	2,717	1,630	38,904	81,637	436,108
Heavy Vehicles	268	161	8,983	18,066	73,873
Off Highway	91	57	1,992	6,258	34,289
Diesel Fuel	1,016	2,328	16,739	2,465	10,427
Heavy Vehicles	405	810	11,476	1,147	6,747
Off Highway	136	282	3,861	366	2,348
Rail	476	1,237	1,427	951	1,332
Aircraft	272	57	170	728	2,087
Military	77	15	17	178	191
Civil	40	8	56	177	1,013
Commercial	155	34	97	372	883
Vessels	633	2,580	1,980	1,211	5,684
Bituminous Coal	0	0	0	0	0
Diesel Fuel	69	178	286	137	192
Residual Oil	550	2,392	1,435	72	5
Gasoline	14	9	319	1,001	5,487
Gas Handling Evaporation Loss	0	0	0	7,607	0
MISCELLANEOUS-AREA	0	0	0	7,487	0
Slash Burning	0	0	0	0	0
Solvent Evaporation Loss	0	0	0	7,487	0
MISCELLANEOUS-POINT	0	0	0	0	0

Figure 5.1.1.a (continued). National Emissions Report

5.1.2.1 GENERAL DESCRIPTION

This is the second NEDS routine publication. It is published annually concurrently with the NER. The source document for this publication is the NEDS Annual Fuel Summary Report. See section 2.2.2.3 for an example of the format of the report. The NEDS Fuel Use Report presents data in the format of the NEDS Annual Fuel Summary Report for the nation and each of the 55 states and territories included in NEDS.

The Air Quality Data publications are routine publications of ambient air quality information. They are derived entirely from the SAROAD data base. The publications included in this category are:

Criteria Pollutants Preliminary Reports - Preliminary reports of air quality data for a quarter or a full year.(Produced in limited quantities by offset printing.)

Criteria Pollutants Final Reports - Final reports of air quality data, for quarter or full year, compiled after review of the preliminary reports. (Produced by LINOTRON.)

Directory of Air Monitoring Sites - Annually updated directory of monitoring sites, giving site location agency and type.

Noncriteria Pollutants - These reports are undergoing modification and are not currently ready for publication.

5.2.1.1 QUARTERLY REPORTS

5.2.1.1.1 GENERAL DESCRIPTION

As can be seen by referring to the attached sample page from the Preliminary Report, Air Quality Data, Fourth Quarter, 1973, dated May 1974, the Preliminary Reports are reproduced by photo offset from typewritten copy in order to expedite their delivery to the using agencies. Also, they are not intended as permanent records because they are subject to additions and corrections as a result of the review of the data that is requested of the Regional Offices (RO's) by the NADB. The source documents for these reports are the SAROAD Quarterly Frequency Distributions (see paragraph 2.3.2.2 above). All of such data that have been submitted by the deadline as given in the schedule as shown in the Preliminary Report are included. Data that are submitted too late for inclusion in the Preliminary Report are available to the RO's through the regular distribution channels of the AEROS and are included in the Final Quarterly Reports and the Preliminary and Final Yearly Reports (see paragraphs 5.2.1.2, 5.2.2.1 and 5.2.2.2, below).

The Report is organized according to the following hierarchy:

a. Pollutant Type
b. Method of Collection and Analysis
c. Time Interval
d. State
e. AQCR Number and Name
f. Area
g. Site Number
h. Agency Type
i. Project Classification Code

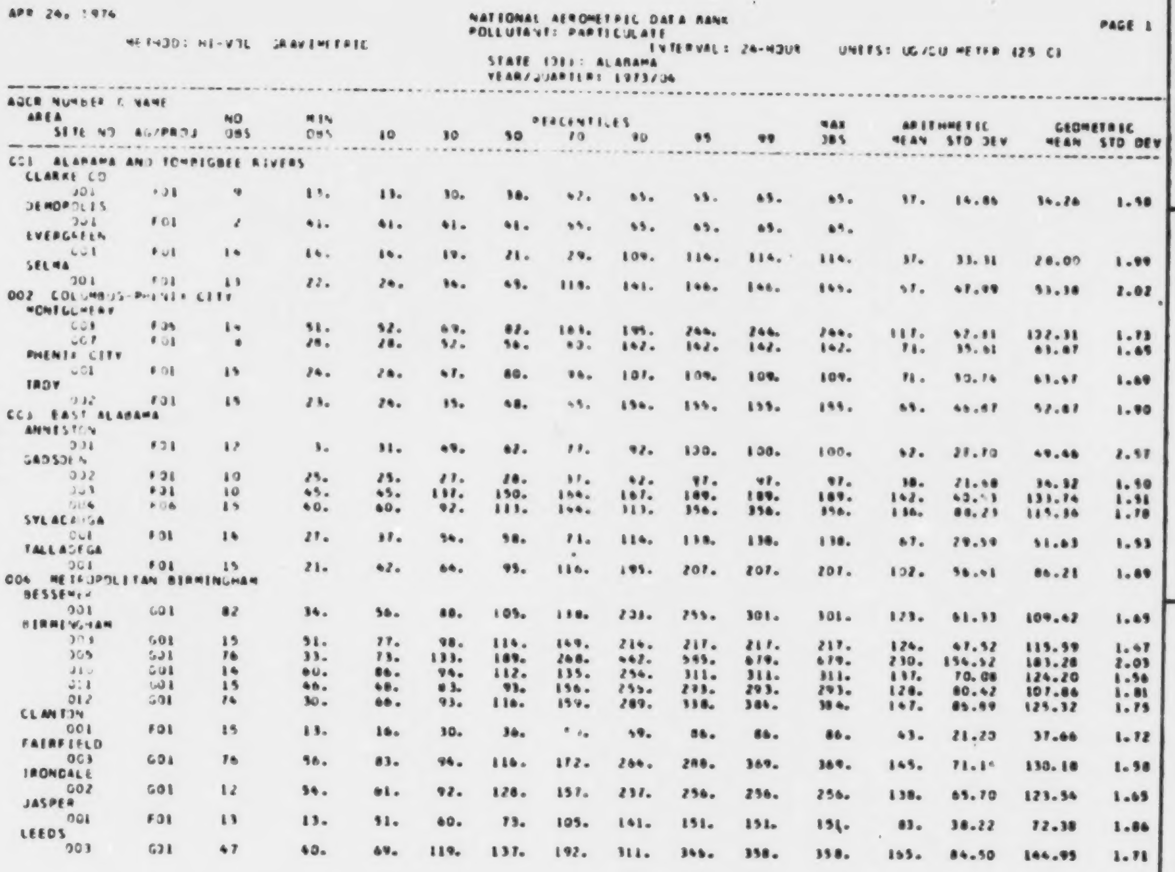
The content of the body of the Report is similar to that of the SAROAD Quarterly Frequency Distribution; i.e., in order across the page the columnar headings are:

a. Number of Observations (next after Agency/Project Code)
b. Minimum Value Observed
c. Percentiles (10, 30, 50, 70, 90, 95, and 99)
d. Maximum Value Observed
e. Arithmetic Mean
f. Arithmetic Standard Deviation
g. Geometric Mean
h. Geometric Standard Deviation

The last four columns are filled in only for those sets of data satisfying the NADB criteria of quality and quantity (frequency) of observation. These "summary criteria" are defined and explained in Section 2.3.0.

5.2.1.1.2 SAMPLE REPORT

Figure 5.2.1.a is an example for the fourth quarter of 1973 and covers the first three AQCR's in Alabama and part of the fourth AQCR as well.



```
APR 24, 1974                                  NATIONAL AEROMETRIC DATA BANK                                         PAGE 1
                METHOD: HI-VOL  GRAVIMETRIC   POLLUTANT: PARTICULATE
                                                      INTERVAL: 24-HOUR    UNITS: UG/CU METER (25 C)
                                               STATE (01): ALABAMA
                                               YEAR/QUARTER: 1973/04
--------------------------------------------------------------------------------------------------------------------------
AQCR NUMBER & NAME
  AREA                   NO       MIN                       PERCENTILES                    MAX      ARITHMETIC       GEOMETRIC
     SITE NO  AG/PROJ    OBS      OBS     10     30     50     70     90     95     99     OBS    MEAN  STD DEV    MEAN  STD DEV
--------------------------------------------------------------------------------------------------------------------------
001  ALABAMA AND TOMBIGBEE RIVERS
  CLARKE CO
     001      F01         9       13.    13.    30.    38.    62.    65.    65.    65.    65.     37.   14.86     34.26   1.50
  DEMOPOLIS
     001      F01         2       41.    41.    41.    41.    55.    55.    65.    65.    65.
  EVERGREEN
     001      F01        14       16.    16.    19.    21.    29.   109.   114.   114.   114.     37.   33.31     28.00   1.99
  SELMA
     001      F01        13       22.    26.    36.    69.   118.   141.   146.   146.   146.     57.   47.99     53.38   2.02
002  COLUMBUS-PHENIX CITY
  MONTGOMERY
     003      F05        14       51.    52.    69.    82.   103.   195.   266.   266.   266.    117.   62.11    122.31   1.73
     007      F01         8       28.    28.    52.    56.    83.   162.   162.   162.   162.     71.   35.61     63.07   1.65
  PHENIX CITY
     001      F01        15       24.    28.    47.    80.    96.   107.   109.   109.   109.     71.   30.76     63.67   1.69
  TROY
     002      F01        15       23.    26.    35.    48.    65.   136.   155.   155.   155.     65.   46.67     52.87   1.90
003  EAST ALABAMA
  ANNISTON
     001      F01        12        3.    31.    49.    62.    77.    92.   100.   100.   100.     62.   27.70     49.46   2.57
  GADSDEN
     002      F01        10       25.    25.    27.    28.    37.    62.    97.    97.    97.     38.   21.68     34.32   1.50
     003      F01        10       45.    45.   137.   150.   166.   167.   189.   189.   189.    142.   63.53    133.76   1.51
     006      F06        15       60.    60.    92.   111.   166.   313.   356.   356.   356.    136.   88.23    115.36   1.70
  SYLACAUGA
     001      F01        16       27.    37.    54.    58.    71.   116.   138.   138.   138.     67.   29.59     51.63   1.53
  TALLADEGA
     001      F01        15       21.    42.    64.    95.   116.   195.   207.   207.   207.    102.   56.61     86.21   1.89
004  METROPOLITAN BIRMINGHAM
  BESSEMER
     001      G01        82       34.    56.    80.   105.   138.   231.   255.   301.   301.    123.   61.33    109.42   1.65
  BIRMINGHAM
     003      G01        15       51.    77.    98.   114.   169.   216.   217.   217.   217.    124.   47.52    115.59   1.47
     005      G01        76       33.    73.   133.   189.   268.   462.   595.   679.   679.    230.  156.52    183.28   2.03
     010      G01        14       60.    86.    94.   112.   135.   256.   311.   311.   311.    137.   70.08    124.20   1.56
     011      G01        15       46.    68.    83.    93.   156.   255.   293.   293.   293.    128.   80.42    107.86   1.81
     012      G01        74       30.    66.    93.   118.   159.   289.   338.   384.   384.    147.   85.69    125.32   1.75
  CLANTON
     001      F01        15       13.    16.    30.    36. [illegible] 59.    86.    86.    86.     43.   21.23     37.66   1.72
  FAIRFIELD
     003      G01        76       56.    83.    94.   116.   172.   266.   288.   369.   369.    145.   71.16    130.18   1.58
  IRONDALE
     002      G01        12       54.    61.    92.   128.   157.   237.   256.   256.   256.    138.   65.70    123.54   1.65
  JASPER
     001      F01        13       13.    51.    60.    73.   105.   141.   151.   151.   151.     83.   38.22     72.38   1.86
  LEEDS
     003      G01        47       40.    69.   119.   137.   192.   311.   346.   358.   358.    165.   84.50    144.95   1.71
```

Figure 5.2.1.a. Quarterly Reports

5.2.1.2 YEARLY REPORTS

5.2.1.2.1 GENERAL DESCRIPTION

The format and content of this publication are identical to those of the Preliminary Quarterly Reports, with the obvious exceptions that the data pertain to one entire calendar year instead of a single quarter and that, as a result, the source document is the SAROAD Yearly Frequency Distribution rather than the Quarterly Frequency Distribution. See the description in the preceding paragraph (5.2.1.1) for the layout and content of the tables in the body of the report. These reports are also produced from computer printouts by means of an offset process.

5.2.1.2.2 SAMPLE REPORT

Figure 5.2.1.b shows the format of these reports.

```
APR 26, 1974                              NATIONAL AEROMETRIC DATA BANK                                        PAGE 544
                                          POLLUTANT: TOTAL OXIDANTS
          METHOD: INSTRUMENTAL  COLORIMETRIC NEUTRAL KI                  INTERVAL: 1-HOUR     UNITS: UG/CU METER (25 C)
                                           STATE (07): CONNECTICUT
                                                 YEAR: 1973
------------------------------------------------------------------------------------------------------------------------
AQCR NUMBER & NAME
  AREA                      NO      MIN                                                     MAX     ARITHMETIC      GEOMETRIC
    SITE NO  AG/PROJ        OBS     OBS     10      30                       95      99     OBS    MEAN  STD DEV   MEAN  STD DEV
------------------------------------------------------------------------------------------------------------------------
043  NEW JERSEY-NEW YORK-CONNECTICUT
  GREENWICH
       001       F01      2108      10.     10.     10.              10.     10.     10.    296.
       004       F01       291      10.     10.     10.              10.     20.     31.     35.


APR 26, 1974                              NATIONAL AEROMETRIC DATA BANK                                        PAGE 545
                                          POLLUTANT: TOTAL OXIDANTS
          METHOD: INSTRUMENTAL  COLORIMETRIC NEUTRAL KI                  INTERVAL: 1-HOUR     UNITS: UG/CU METER (25 C)
                                        STATE (09): DISTRICT OF COLUMBIA
                                                 YEAR: 1973
------------------------------------------------------------------------------------------------------------------------
AQCR NUMBER & NAME
  AREA                      NO      MIN                       PERCENTILES                   MAX     ARITHMETIC      GEOMETRIC
    SITE NO  AG/PROJ        OBS     OBS     10      30      50      70      90      95      99.     OBS    MEAN  STD DEV   MEAN  STD DEV
------------------------------------------------------------------------------------------------------------------------
047  NATIONAL CAPITAL
  WASHINGTON
       003       A10        46      10.     10.     10.     10.     10.     20.     20.     39.     39.


APR 26, 1974                              NATIONAL AEROMETRIC DATA BANK                                        PAGE 546
                                          POLLUTANT: TOTAL OXIDANTS
          METHOD: INSTRUMENTAL  COLORIMETRIC NEUTRAL KI                  INTERVAL: 1-HOUR     UNITS: UG/CU METER (25 C)
                                            STATE (10): FLORIDA
                                                 YEAR: 1973
------------------------------------------------------------------------------------------------------------------------
AQCR NUMBER & NAME
  AREA                      NO      MIN                       PERCENTILES                   MAX     ARITHMETIC      GEOMETRIC
    SITE NO  AG/PROJ        OBS     OBS     10      30      50      70      90      95      99      OBS    MEAN  STD DEV   MEAN  STD DEV
------------------------------------------------------------------------------------------------------------------------
050  SOUTHEAST FLORIDA
  WEST PALM BEACH
       001       G01      1543      10.     10.     10.     27.     39.     67.     88.    120.    155.
```

Figure 5.2.1.b. Yearly Reports

Reproduced from best available copy.

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APR 24, 1974                                   NATIONAL AEROMETRIC DATA BANK                                          PAGE 547
                                                 POLLUTANT: TOTAL OXIDANTS
            METHOD: INSTRUMENTAL  COLORIMETRIC NEUTRAL KI              INTERVAL:  1-HOUR     UNITS: UG/CU METER (25 C)
                                                   STATE (14): ILLINOIS
                                                        YEAR: 1973
-------------------------------------------------------------------------------------------------------------------------
AQCR NUMBER & NAME
  AREA                      NO      MIN                        PERCENTILES                        MAX     ARITHMETIC      GEOMETRIC
     SITE NO   AG/PR ID    OBS      OBS     10      30      50      70      90      95      99     OBS   MEAN  STD DEV  MEAN  STD DEV
-------------------------------------------------------------------------------------------------------------------------
067  METROPOLITAN CHICAGO
  CHICAGO
      002       A13  3367      10.     10.     20.     39.     39.     78.     78.    118.    568.
```

```
APR 24, 1974                                   NATIONAL AEROMETRIC DATA BANK                                          PAGE 548
                                                 POLLUTANT: TOTAL OXIDANTS
            METHOD: INSTRUMENTAL  COLORIMETRIC NEUTRAL KI              INTERVAL:  1-HOUR     UNITS: UG/CU METER (25 C)
                                                   STATE (18): KENTUCKY
                                                        YEAR: 1973
-------------------------------------------------------------------------------------------------------------------------
AQCR NUMBER & NAME
  AREA                      NO      MIN                        PERCENTILES                        MAX     ARITHMETIC      GEOMETRIC
     SITE NO   AG/PR ID    OBS      OBS     10      30      50      70      90      95      99     OBS   MEAN  STD DEV  MEAN  STD DEV
-------------------------------------------------------------------------------------------------------------------------
072  PADUCAH-CAIRO
  PADUCAH
      023       F01  2537      10.     10.     10.     10.     10.     33.     49.     71.    118.
102  BLUEGRASS
  LEXINGTON
      005       F01    99      10.     10.     10.     24.     49.     78.     88.     98.     98.
      006       F01  1583      10.     10.     10.     24.     35.     59.     71.     96.    114.
103  HUNTINGTON-ASHLAND-PORTSMOUTH-IRONTON
  ASHLAND
      004       F01  3418      10.     10.     10.     20.     29.     59.     69.     98.    157.
```

Figure 5.2.1.b.(continued). Yearly Reports

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** ROUTINE PUBLICATIONS	**SECTION** 5	**CHAPTER** 2	**SUBJECT** 2-
NATIONAL AIR DATA BRANCH	**CHAPTER** AIR QUALITY DATA	**DATE** 9/30/75		**PAGE** 1
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** CRITERIA POLLUTANTS-FINAL REPORTS			

5.2.2.1 QUARTERLY REPORTS

5.2.2.1.1 GENERAL DESCRIPTION

These reports are published after the Preliminary reports have been issued, corrected and edited, and their contents validated by the several states and EPA Regional Offices (RO's). They are similar in nature to the Preliminary Reports described earlier (see paragraphs 5.2.1.1 and 5.2.1.2, above), but are prepared in a different format for printing by the LINOTRON process. The attached sample page demonstrates the format and content of the Final Reports. The Final Reports should include all corrections submitted by the states or the EPA Regional Offices.

5.2.2.1.2 SAMPLE REPORT

As can be seen from Figure 5.2.2.a., the Final Reports contain the same information as is given in the Preliminary Reports, the chief difference being that the format has been somewhat altered by the LINOTRON printing process. See paragraph 5.2.1.1, above, for a description of the sequencing of the major elements of the report, as well as the ordering of the data across the page.

PARTICULATE, micrograms per cubic meter (25 C)
HI-VOL GRAVIMETRIC, 24 hours
1973 Second Quarter

Site location	Site No.	Ag/ proj.	No. obs.	Min. obs.	Percentiles 10	30	50	70	90	95	99	Max. obs.	Arithmetic Mean	Arithmetic Std. dev.	Geometric Mean	Geometric Std. dev.
ALABAMA																
001 Clarke Co	001	F01	10	21.	21	30.	38	53.	71	97.	97.	97.	47.	23.45	42.44	1.61
001 Demopolis	001	F01	14	28.	29.	49	51.	54	67	79.	79	79	51.	13.89	49.09	1.35
001 Evergreen	001	F01	14	19.	30.	32.	35	44.	52.	58.	58.	58.	39.	10.43	37.20	1.33
001 Selma	001	F01	15	26	26.	34	40	52.	74	79.	79.	79.	45.	16.94	42.33	1.44
002 Montgomery	002	F01	9	54.	54	66.	72	86	91.	91.	91.	91.	73.	14.00	71.89	1.22
	003	F01	12	47.	59.	63.	97	113.	165.	195.	195.	195.	101.	43.75	93.41	1.53
002 Phenix City	001	F01	14	43.	56	65.	71.	79	102.	134.	134.	134.	76.	22.32	73.36	1.32
002 Troy	001	F01	5	40	40.	40.	48.	56.	78.	78	78.	78.				
003 Anniston	001	F01	4	10	10.	45.	45.	68	69	69.	69.	69.				
003 Gadsden	002	F01	14	22.	24	39.	41.	50.	77.	198.	198.	198.	55.	43.59	46.27	1.70
	003	F01	7	32	32.	98.	108.	108	169.	169	169.	169.	102.	41.78	92.14	1.69
003 Sylacauga	001	F01	13	33	47	52.	74	99.	115	146	146.	146.	77.	31.92	71.02	1.52
003 Talladega	001	F01	15	46	65.	74.	78.	121	140	238.	238.	238.	99.	47.07	91.57	1.50
004 Bessemer	001	G01	72	43	70	87	95.	111.	132	143.	172.	172.	99.	26.09	96.05	1.31
004 Birmingham	003	G01	12	47.	54	92.	114.	144.	230	238.	238.	238.	124.	62.28	109.63	1.69
	005	G01	86	45	90.	123	147.	192	272	292.	358.	358.	164.	48.56	150.60	1.54
	010	G01	14	70.	94	105	111	127.	174.	199.	199.	199.	122.	33.18	117.85	1.30
	011	G01	13	60	67	90.	97.	123.	124.	229	229.	229.	109.	42.03	102.61	1.40
	012	G01	60	47.	58	94.	126.	152.	196	229	244.	244.	128.	52.82	116.85	1.55
004 Clanton	001	F01	15	30	32.	35.	45.	58	64	67.	67.	67.	47.	13.75	45.18	1.35
004 Fairfield	003	G01	90	48	64	96.	116.	146	210.	295.	434.	434.	136.	71.21	122.26	1.58
004 Irondale	002	G01	13	36.	59.	71.	98	108	207.	226	226.	226.	103.	55.05	92.08	1.64
004 Jasper	001	F01	14	55.	62.	73	75	83	100.	110.	110.	110.	79.	14.81	77.31	1.20
004 Leeds	003	G01	42	57.	81.	125	150	175.	236	310.	338.	338.	158.	62.87	147.27	1.47
004 Oneonta	001	F01	13	27.	36.	48	51	57.	70.	72.	72.	72.	53.	12.96	51.06	1.31
004 Pell City	001	F01	14	32.	39.	59	63.	68	81.	82	82.	82.	62.	14.65	60.13	1.31
004 Shelby Co	002	F01	12	36.	56.	59.	94	100.	113.	139.	139.	139.	85.	29.23	80.31	1.47
004 Sumter Co	001	F01	13	8	23.	27.	33.	55	83.	104.	104.	104	44.	27.76	35.97	1.96
004 Tarrant City	001	G01	12	58	60.	111	130.	176	282	493.	493.	493.	164.	121.07	134.60	1.88
004 Tuscaloosa	002	F01	13	36	42.	53.	66.	74.	135.	259.	259.	259.	82.	58.61	70.49	1.66
005 Brewton	001	F01	12	33.	35.	49	57.	65.	67	76.	76	76.	55.	14.15	53.54	1.33
005 Mobile	001	G01	10	72.	74.	89.	95.	102.	112.	112.	112.	138.	94.	21.06	92.13	1.24
005 Mobile Co	006	G01	17	57.	57.	75.	97	130.	210.	210.	210.	392.	148.	90.15	127.31	1.74
	013	G01	11	22.	22.	31.	38.	38.	53.	53.	53	179.	58.	42.17	49.82	1.70
	017	G01	14	28.	28.	29.	30.	43.	94	94.	94.	99.	51.	22.73	47.45	1.49
005 Saraland	001	G01	13	31.	31	34	42.	60.	64	64.	64	64.	49	10.74	47.78	1.26
006 Andalusia	001	F01	8	26.	26.	28.	37.	64	80	80	80.	80.	47.	21.31	42.70	1.57
006 Dothan	001	F01	15	55	68	87	115.	131	150	208	208.	208.	114.	38.19	108.09	1.40
007 Athens	001	G01	15	36.	38.	65.	91	101	123.	130	130	130.	84.	30.56	78.02	1.51
	002	G01	10	33.	33.	60.	74	78	97	103	103.	103.	72.	21.96	68.74	1.43
007 Cullman	001	F01	15	37.	46.	53.	63.	70.	92.	100	100.	100.	66.	18.64	63.10	1.33
007 Decatur	001	G01	24	8	54.	75.	88	104	144	147	218	218	97.	42.94	85.32	1.85
	002	G01	15	35	35.	59	76	83	86	92.	92	92	68.	19.89	64.46	1.41
	003	G01	16	33.	38.	50	61	83	102	106.	106	106	67.	23.28	63.04	1.44
	004	G01	3	33	33	33	86	131	131	131.	131	131				
	005	G01	8	44	44	59	82	105	126	126	126	126	87	32.57	81.57	1.51
007 Florence	001	F01	3	36	36	36	56	81	81.	81	81	81				
007 Fort Payne	001	F01	11	36	39	46	50	54	60.	72	72	72	50.	10.28	49.53	1.22
007 Guntersville	001	F01	14	22	27	42	46	58	71	91.	91	91.	49.	18.12	46.38	1.46
007 Hartselle	001	G01	10	27	27	28	41	51	59	60	60	60	44	13.58	41.88	1.39
007 Huntsville	002	H01	15	37	90.	114	231	498	772	772	772	772	194	199.79	130.72	2.48
	003	H01	47	31.	35	47	56.	68	79	86	91	91.	57.	16.80	54.79	1.36
	004	H01	15	21	21	41	58	65	83	83	83	83	56.	16.76	52.84	1.42
	006	H01	15	23	23	25	43	44	88	88	88	88	43	18.09	39.75	1.50
	007	H01	15	29	29	38	54	58	88	88	88	88	53	14.99	50.67	1.34
	008	H01	15	24.	24	44	50	62	80	80	80	83	54	18.08	51.40	1.44
	009	H01	14	24	26	29	50	56	65	65	65	69	47	16.01	44.30	1.46
007 Lawrence Co	001	G03	8	25	25	47	54	62	83	83	83	83	55	19.43	51.30	1.50
007 Scottsboro	001	F01	12	30	35	45	48	68	86	99	99	99	57	20.40	53.56	1.42
	002	F01	13	43	48	54	63	69	73	86	86	86	62	11.70	60.82	1.21
	003	F01	12	53	74	75	86	103	131	137	137	137	94	25.70	90.70	1.32
	004	F01	11	27	34	36	43	45	48.	61	61	61.	42	8.83	40.80	1.24
007 Tuscumbia	001	F01	6	50.	50	51	59	69	82	82	82	82				

Figure 5.2.2.2.a. Quarterly Reports (Final)

5.2.2.2 YEARLY REPORTS

5.2.2.2.1 GENERAL DESCRIPTION

This report, like the Preliminary Yearly Report, is arranged exactly like its corresponding Quarterly Report--the difference, as before, being that the data are for an entire year rather than for a single quarter of a year. The sequencing of the major elements in as in the Final Quarterly Reports; that is, by Pollutant Type, Method, Time Interval, State, AQCR, Area (City or County), Site Number, and Agency/Project Code. The physical arrangement of the numerical data across the page is as described in paragraph 5.2.1.1. Because of the review and editing of the Preliminary Reports and the longer time allowed for the submittal of late data, this is the most accurate and the most complete of all of the Air Quality Data Routine Publications.

5.2.2.2.2 SAMPLE REPORT

Figure 5.2.2.b shows a sample of this report format.

PARTICULATE, MICRO-GRAMS PER CUBIC METER (25 C)
HI-VOL GRAVIMETRIC, 24-hour

Site location	Site No	Ag/ proj	No obs	Min obs	Percentiles							Max obs	Arithmetic		Geometric	
					10	30	50	70	90	95	99		Mean	Std dev	Mean	Std. dev.
ALABAMA																
72 Decatur	001	F01	115	5	27	47	63	81	129	161	194	211	71	40.58	60.17	1.84
	002	F01	112	1	31	49	62	80	103	119	156	177	66	30.18	58.04	1.90
	003	F01	100	21	63	82	95	123	165	209	287	310	110	50.10	99.89	1.55
001 Clarke Co	001	F01	50	19	24	30	38	48	59	65	69	69	40	13.91	37.88	1.42
001 Demopolis	001	F01	27	41	44	61	77	96	130	130	199	199				
001 Evergreen	0C1	F01	52	12	17	25	30	35	43	51	67	67	30	11.59	28.29	1.47
001 Selma	001	F01	55	15	24	40	52	64	83	92	104	104	53	21.41	48.11	1.57
002 Montgomery	001	A01	30	14	28	42	55	69	79	105	107	107	58	22.09	53.24	1.55
	002	F01	51	10	40	65	74	84	108	129	150	150				
	003	F01	50	7	42	81	111	152	217	224	258	258	120	62.24	96.99	2.22
	006	F01	22	8	26	30	38	47	60	65	67	67				
002 Phenix City	001	F01	50	33	49	61	67	78	94	102	123	123	71	18.51	68.79	1.29
002 Troy	001	F01	49	20	26	36	51	60	76	78	97	97	50	18.89	46.00	1.50
003 Anniston	001	F01	39	38	48	59	77	94	119	130	133	133				
003 Gadsden	001	A01	30	37	42	56	79	88	119	159	166	166	82	32.96	75.84	1.49
	002	F01	56	13	19	39	46	70	104	161	181	181	58	38.55	48.06	1.88
	003	F01	55	35	63	107	159	224	598	676	857	857	238	203.43	174.62	2.19
003 Sylacauga	001	F01	51	12	36	51	62	75	97	119	124	124	64	25.62	57.74	1.61
003 Talladega	001	F01	52	16	52	75	91	123	138	156	179	179	95	37.14	86.19	1.65
004 Bessemer	001	G01	186	25	65	103	126	149	193	217	335	337	130	54.37	119.21	1.55
004 Birmingham	003	G01	9	54	54	82	117	126	182	182	182	182				
	003	A01	30	35	51	71	87	106	146	204	297	297	101	52.97	90.19	1.59
	005	G01	274	30	89	145	196	244	342	367	488	536	206	97.07	182.44	1.68
	009	G01	221	43	88	122	149	184	246	307	378	411				
	010	G01	204	25	67	99	122	159	205	237	373	385	134	61.81	120.88	1.60
	011	G01	121	36	68	100	115	138	183	195	224	275				
	012	G01	122	40	68	96	125	159	223	257	321	328				
004 Clanton	001	F01	57	13	23	32	42	58	84	100	112	112	48	23.72	42.71	1.65
004 Fairfield	003	G01	253	46	76	106	131	149	178	210	257	347				
004 Irondale	002	G01	27	56	76	93	105	126	187	188	254	254				
004 Jasper	001	F01	53	28	52	75	92	111	149	181	250	250	99	43.68	90.05	1.56
004 Leeds	003	G01	87	29	71	110	140	176	240	266	451	451				
004 Mountain Brook	001	G01	166	22	39	49	58	69	91	106	143	183				
004 Oneonta	001	F01	47	18	39	59	72	83	156	180	202	202	81	42.76	71.07	1.69
004 Pell City	001	F01	53	17	26	45	57	70	84	91	139	139	58	24.23	52.91	1.57
004 Shelby Co	002	F01	44	24	49	64	73	84	114	129	146	146				
004 Tarrant City	001	G01	185	40	71	111	140	182	236	267	362	400	152	65.76	137.76	1.56
004 Tuscaloosa	001	F01	11	54	59	64	79	91	107	127	127	127				
	002	F01	45	30	46	68	77	92	130	148	161	161				
005 Brewton	001	F01	52	21	28	37	44	51	67	81	89	89	47	15.75	44.01	1.40
005 Mobile	001	A01	22	59	74	77	104	135	174	192	219	219	114	44.40	106.27	1.45
	001	G01	29	54	65	103	114	136	219	248	357	357				
	002	G01	57	18	51	75	102	158	204	246	267	267	119	61.70	102.40	1.78
005 Mobile Co	006	G01	58	47	70	104	134	193	274	385	498	498	162	97.00	139.74	1.72
	013	G01	25	1	27	35	51	70	125	125	142	142				
	017	G01	27	23	30	42	60	78	117	126	151	151				
005 Saraland	001	G01	28	24	39	57	60	73	119	124	155	155				
006 Andalusia	001	F01	37	25	33	49	56	63	85	91	118	118	58	20.52	54.68	1.43
006 Dothan	001	F01	56	23	32	61	76	98	126	149	275	275	83	43.15	73.04	1.67
007 Cullman	001	F01	51	23	48	60	82	128	174	199	287	287	99	56.41	85.96	1.73
007 Florence	001	F01	55	29	49	61	85	109	161	194	373	373	101	62.22	88.24	1.67
007 Fort Payne	001	F01	44	8	33	41	61	72	101	114	127	127	62	27.97	54.83	1.70
007 Guntersville	001	F01	57	20	30	44	57	66	95	116	129	129	59	24.81	54.36	1.53
007 Huntsville	001	A01	28	34	36	50	62	72	112	126	132	132	68	26.71	63.06	1.46
	002	H01	81	10	24	37	48	75	132	175	370	370	70	65.37	52.71	2.06
	003	H01	216	5	33	47	58	73	98	107	122	131	62	24.54	57.13	1.56
	004	H01	81	11	27	38	49	57	84	90	135	135	52	22.75	47.23	1.56
	006	H01	69	12	22	31	39	49	66	74	90	90	42	16.82	38.35	1.53
007 Scottsboro	001	F01	51	17	31	43	52	72	92	98	109	109	58	23.81	52.88	1.57
	002	F01	48	7	34	51	60	93	114	129	249	249	75	41.26	64.34	1.80
	003	F01	46	51	68	92	107	132	145	158	192	192	110	32.60	104.84	1.36
	004	F01	38	15	25	38	51	74	121	173	224	224				
007 Tuscumbia	001	F01	38	30	49	81	102	124	138	142	182	182				

Figure 5.2.2.b. Yearly Reports (Final)

5.2.3.1 GENERAL DESCRIPTION

This publication, which is a complete directory of all site data for SAROAD monitoring sites in the United States, is published annually by NADB. The 1972 edition (EPA-450/2-73-006, September 1973) contains 800 pages, of which pages i-vi contain the title page, table of contents, etc.; pages 1-4 are the introduction including the two-page SAROAD Site Identification Form and the Agency Type and Project Classification Codes; and the remaining 790 pages constitute the body of the report. Future directories will include only sites active in year X, and the pollutants that were reported will also be given by site.

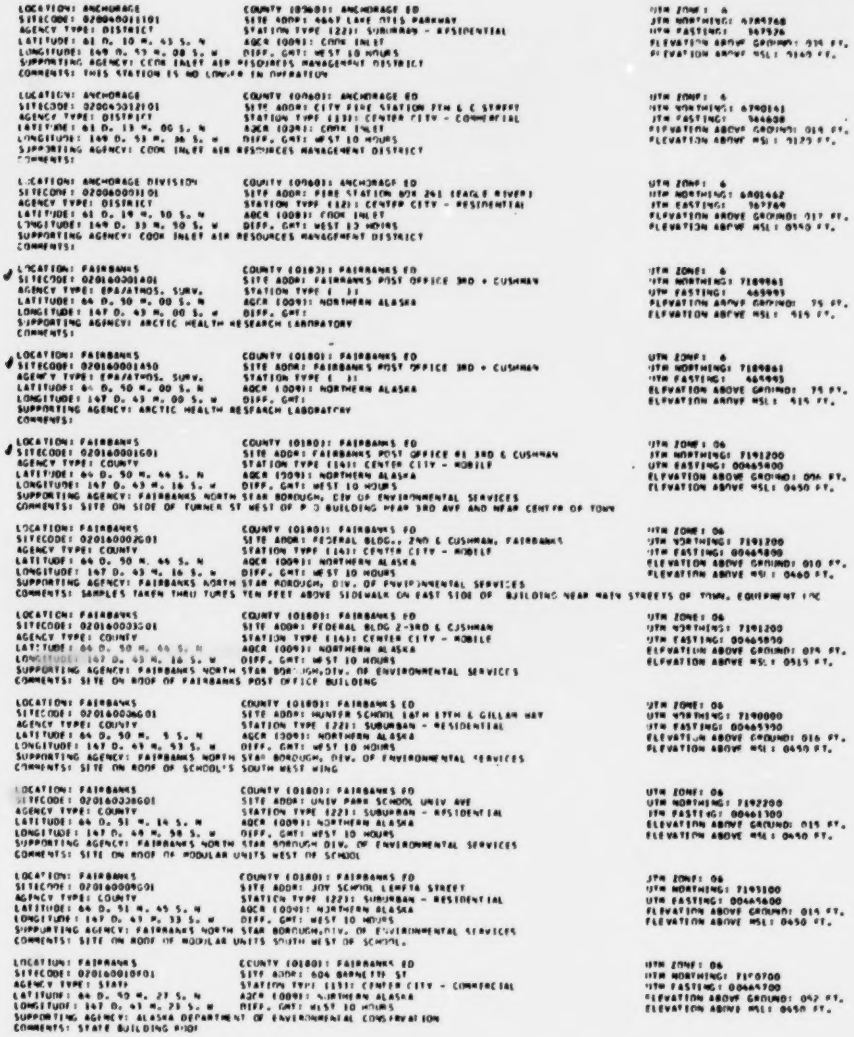
The sequencing of the site information is by state and location name, both in alphabetical order. Within a given location, the ordering is by Site Code Number and Agency Type Code. The arrangement of the information is as shown in paragraph 2.3.1.5, which contains the description of the SAROAD Site Description Inventory, except for some format differences as shown in the sample report.

5.2.3.2 SAMPLE REPORT

Figure 5.2.3.a shows a sample page from the directory. The sequencing of the individual items may be seen in the data for Sites 020160001, in Fairbanks Alaska. The ordering extends to the Agency Type Code and, in the case of the Fairbanks site, to the Project Classification Code.

Figure 5.2.3.b shows a sample page from the Directory of Air Quality Monitoring Sites Active in 1973. This figure shows the site descriptions and the list of pollutants reported for each site.

ALASKA



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LOCATION: ANCHORAGE                    COUNTY (0960): ANCHORAGE ED                              UTM ZONE: 6
SITECODE: 020040011101                 SITE ADDR: 4667 LAKE OTIS PARKWAY                        UTM NORTHING: 6785760
AGENCY TYPE: DISTRICT                  STATION TYPE (22): SUBURBAN - RESIDENTIAL                UTM EASTING:   367526
LATITUDE: 61 D. 10 M. 43 S. N          AQCR (009): COOK INLET                                   ELEVATION ABOVE GROUND: 015 FT.
LONGITUDE: 149 D. 53 M. 08 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0140 FT.
SUPPORTING AGENCY: COOK INLET AIR RESOURCES MANAGEMENT DISTRICT
COMMENTS: THIS STATION IS NO LONGER IN OPERATION

LOCATION: ANCHORAGE                    COUNTY (0060): ANCHORAGE ED                              UTM ZONE: 6
SITECODE: 020040012101                 SITE ADDR: CITY FIRE STATION 7TH & C STREET              UTM NORTHING: 6790141
AGENCY TYPE: DISTRICT                  STATION TYPE (13): CENTER CITY - COMMERCIAL              UTM EASTING:   344608
LATITUDE: 61 D. 13 M. 00 S. N          AQCR (009): COOK INLET                                   ELEVATION ABOVE GROUND: 019 FT.
LONGITUDE: 149 D. 53 M. 36 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0129 FT.
SUPPORTING AGENCY: COOK INLET AIR RESOURCES MANAGEMENT DISTRICT
COMMENTS:

LOCATION: ANCHORAGE DIVISION           COUNTY (0960): ANCHORAGE ED                              UTM ZONE: 6
SITECODE: 020060003101                 SITE ADDR: FIRE STATION BOX 261 (EAGLE RIVER)            UTM NORTHING: 6801462
AGENCY TYPE: DISTRICT                  STATION TYPE (12): CENTER CITY - RESIDENTIAL             UTM EASTING:   367769
LATITUDE: 61 D. 19 M. 30 S. N          AQCR (009): COOK INLET                                   ELEVATION ABOVE GROUND: 017 FT.
LONGITUDE: 149 D. 33 M. 30 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0550 FT.
SUPPORTING AGENCY: COOK INLET AIR RESOURCES MANAGEMENT DISTRICT
COMMENTS:

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 6
SITECODE: 020160001A01                 SITE ADDR: FAIRBANKS POST OFFICE 3RD + CUSHMAN           UTM NORTHING: 7189861
AGENCY TYPE: EPA/ATMOS. SURV.          STATION TYPE (  ):                                       UTM EASTING:   465993
LATITUDE: 64 D. 50 M. 00 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND:  75 FT.
LONGITUDE: 147 D. 43 M. 00 S. W        DIFF. GMT:                                               ELEVATION ABOVE MSL:  515 FT.
SUPPORTING AGENCY: ARCTIC HEALTH RESEARCH LABORATORY
COMMENTS:

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 6
SITECODE: 020160001A50                 SITE ADDR: FAIRBANKS POST OFFICE 3RD + CUSHMAN           UTM NORTHING: 7189861
AGENCY TYPE: EPA/ATMOS. SURV.          STATION TYPE (  ):                                       UTM EASTING:   465993
LATITUDE: 64 D. 50 M. 00 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND:  75 FT.
LONGITUDE: 147 D. 43 M. 00 S. W        DIFF. GMT:                                               ELEVATION ABOVE MSL:  515 FT.
SUPPORTING AGENCY: ARCTIC HEALTH RESEARCH LABORATORY
COMMENTS:

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 06
SITECODE: 020160001G01                 SITE ADDR: FAIRBANKS POST OFFICE #1 3RD & CUSHMAN        UTM NORTHING: 7191200
AGENCY TYPE: COUNTY                    STATION TYPE (14): CENTER CITY - MOBILE                  UTM EASTING: 00465800
LATITUDE: 64 D. 50 M. 46 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND: 006 FT.
LONGITUDE: 147 D. 43 M. 16 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH, DIV OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON SIDE OF TURNER ST WEST OF P O BUILDING NEAR 3RD AVE AND NEAR CENTER OF TOWN

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 06
SITECODE: 020160002G01                 SITE ADDR: FEDERAL BLDG., 2ND & CUSHMAN, FAIRBANKS       UTM NORTHING: 7191200
AGENCY TYPE: COUNTY                    STATION TYPE (14): CENTER CITY - MOBILE                  UTM EASTING: 00465800
LATITUDE: 64 D. 50 M. 46 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND: 010 FT.
LONGITUDE: 147 D. 43 M. 16 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0460 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH, DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SAMPLES TAKEN THRU TUBES TEN FEET ABOVE SIDEWALK ON EAST SIDE OF  BUILDING NEAR MAIN STREETS OF TOWN. EQUIPMENT INC

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 06
SITECODE: 020160003G01                 SITE ADDR: FEDERAL BLDG 2-3RD & CUSHMAN                  UTM NORTHING: 7191200
AGENCY TYPE: COUNTY                    STATION TYPE (14): CENTER CITY - MOBILE                  UTM EASTING: 00465850
LATITUDE: 64 D. 50 M. 46 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND: 075 FT.
LONGITUDE: 147 D. 43 M. 16 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0515 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH,DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF FAIRBANKS POST OFFICE BUILDING

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 06
SITECODE: 020160006G01                 SITE ADDR: HUNTER SCHOOL 16TH 17TH & GILLAM WAY          UTM NORTHING: 7190000
AGENCY TYPE: COUNTY                    STATION TYPE (22): SUBURBAN - RESIDENTIAL                UTM EASTING: 00465390
LATITUDE: 64 D. 50 M.  5 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND: 016 FT.
LONGITUDE: 147 D. 43 M. 53 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH, DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF SCHOOL'S SOUTH WEST WING

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 06
SITECODE: 020160038G01                 SITE ADDR: UNIV PARK SCHOOL UNIV AVE                     UTM NORTHING: 7192200
AGENCY TYPE: COUNTY                    STATION TYPE (22): SUBURBAN - RESIDENTIAL                UTM EASTING: 00461300
LATITUDE: 64 D. 51 M. 14 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND: 015 FT.
LONGITUDE: 147 D. 48 M. 58 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF MODULAR UNITS WEST OF SCHOOL

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 06
SITECODE: 020160009G01                 SITE ADDR: JOY SCHOOL LEMETA STREET                      UTM NORTHING: 7193100
AGENCY TYPE: COUNTY                    STATION TYPE (22): SUBURBAN - RESIDENTIAL                UTM EASTING: 00465600
LATITUDE: 64 D. 51 M. 45 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND: 015 FT.
LONGITUDE: 147 D. 43 M. 33 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: FAIRBANKS NORTH STAR BOROUGH,DIV. OF ENVIRONMENTAL SERVICES
COMMENTS: SITE ON ROOF OF MODULAR UNITS SOUTH WEST OF SCHOOL.

LOCATION: FAIRBANKS                    COUNTY (0180): FAIRBANKS ED                              UTM ZONE: 06
SITECODE: 020160010F01                 SITE ADDR: 604 BARNETTE ST                               UTM NORTHING: 7190700
AGENCY TYPE: STATE                     STATION TYPE (13): CENTER CITY - COMMERCIAL              UTM EASTING: 00465700
LATITUDE: 64 D. 50 M. 27 S. N          AQCR (009): NORTHERN ALASKA                              ELEVATION ABOVE GROUND: 052 FT.
LONGITUDE: 147 D. 43 M. 23 S. W        DIFF. GMT: WEST 10 HOURS                                 ELEVATION ABOVE MSL: 0450 FT.
SUPPORTING AGENCY: ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
COMMENTS: STATE BUILDING ROOF
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Figure 5.2.3.a. Directory of Monitoring Sites

ALABAMA

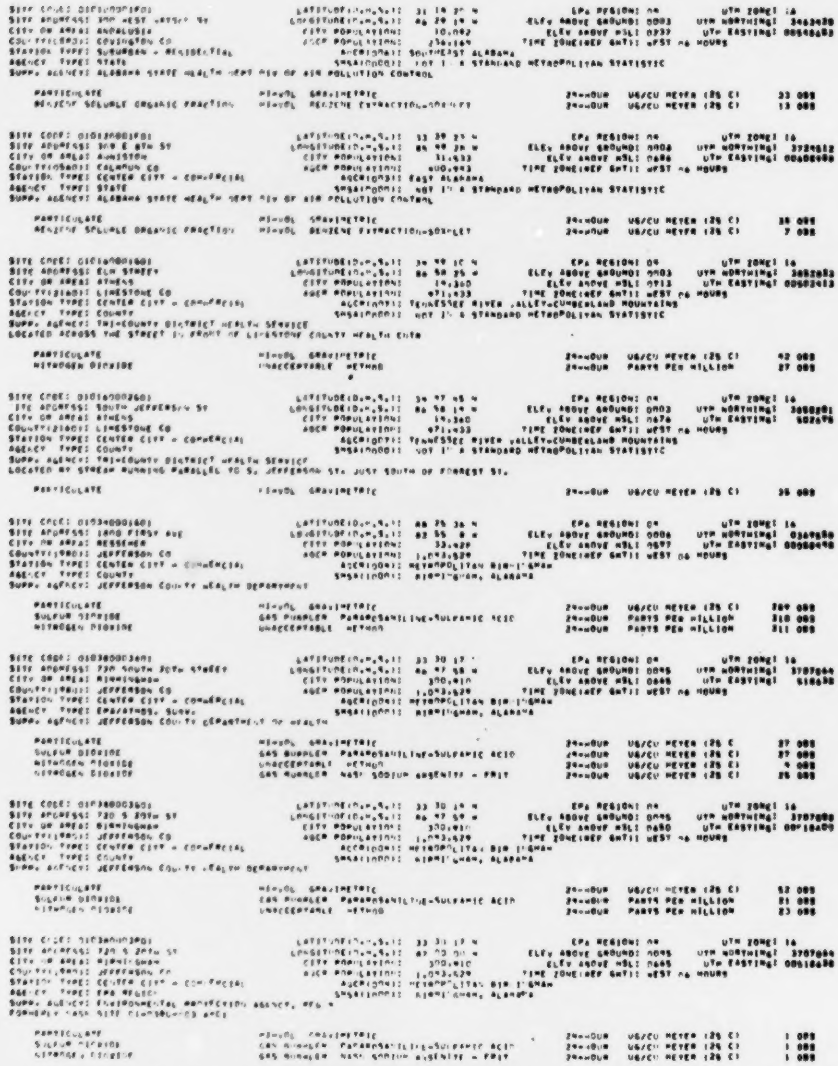

Figure 5.2.3.b. Directory of Air Quality Sites Active in 1973

5.2.4.1 GENERAL DESCRIPTION

The format of these reports is currently being revised.

In this section, the usage of AEROS reports will be illustrated by descriptions of typical application problems in which some of the major AEROS reports have been utilized.

Perhaps the most important of the AEROS output is the emissions (NEDS) information and the air quality (SAROAD) information. These sets of data are frequently used in concert to relate emission levels to air quality in a region or to observe long term trends in emissions and air quality levels. One example application of these data concerns tha problem of achieving the air quality standards for total suspended particulates under current emission regulations (Section 6.1.1). SAROAD data are utilized in this application to assess the magnitude of the particulate problem in a region and to observe the recent trends in particulate levels. The NEDS output is useful in identifying the major sources of the problem as well as providing a base for evaluating the impact of alternatives for remedial action.

Another application is in the development of the transportation control plans required to ensure achieving air quality standards for carbon monoxide and photochemical oxidants (Section 6.1.2). In this application, NEDS information is used to provide data on the nonautomotive sources of these pollutants, and these data, along with recent SAROAD air quality data, provide baseline information for application of a rollback calculation to estimate the required reductions in automotive emissions.

In assessing alternative emissions control plans, diffusion modeling is a useful tool to aid in estimating the impacts of specific emission reduction measures. However, before it can be useful, any diffusion model must be validated and then calibrated for the conditions under which it is to be applied. NEDS and SAROAD data can be utilized for the validation and calibration of models that are used in assessing emission control plans for a region (Section 6.3.1).

The third major AEROS system is the source test data system. This system, accumulating data from numerous stack tests, is useful in estimating emission factors for different source types. These emission factors can be updated, improved, or modified as technology changes through application of the data stored in SOTDAT. (Section 6.2.1)

In addition to the three major components, AEROS includes a number of other smaller systems that are generally useful in conjunction with the major systems. The Air Quality Assurance System is useful in conjunction with SAROAD to to determine the type of aerometric data available in a region as well as the quality of those data. The State Implementation Plan System is also useful in conjunction with NEDS and SAROAD data in assessing the effectiveness of specific emissions regulations by observing time trends. These systems find important applications in the development and evaluation of State Implementation Plans (Sections 6.3 and 6.4).

Another system, the Federal Power Commission - Form 67 data system, is important in the evaluation of the contribution to air pollution from electric generating plants. A particularly significant application of this system is in the assessment of effects of fuel switching by power companies (Section 6.5.1) - for example, if oil shortages require a switch to coal burning.

The various auxiliary data files included within AEROS are important sources of information concerning various point and area sources of air pollution. One important application of these files is in providing timely data sources for the semiannual updating of emission inventories for NEDS (Section 6.6). Census data provide a base for updating various categories of area source fuel usage. Polk data provide basic information for estimation of automotive emissions.

The emissions data system (NEDS) and the air quality data system (SAROAD) are the major components of AEROS. These systems were originally developed to provide a classification and inventory of air pollution sources (NEDS) and to provide a history of air quality trends (SAROAD). The systems are kept up-to-date by the Federal requirement of semiannual updating for NEDS files and quarterly reporting of SAROAD information.

The systems are important in recognizing trends in emissions levels or in air quality in order to anticipate potential problems in meeting air quality standards. They are also important as baseline information for use in evaluating the "potential"control" measures and in evaluating and calibrating diffusion models for application to the assessment of regional problems.

The systems provide over 20 different types of data reports for displaying emissions and air quality data and, in addition, they have the capability of providing selected raw data from NEDS or SAROAD in a computer-readable form (cards or tape) for further analysis.

In many urban areas, presently employed emission control procedures are proving inadequate for achieving air quality standards for total suspended particulates (TSP). In view of the fact that the Clean Air Act requires that these standards be attained, many agencies* are concerned that the degree of noncompliance be determined and that the reasons for noncompliance be identified so that appropriate remedial action can be taken.

The sources of suspended particulates can vary considerably and include:

- Stationary sources engaged in activities generating combustion products and industrial dust (utilities, coal and oil-fired boilers, smelters, etc.)
- Area sources including automotive/diesel exhaust, tire wear particles, and space heating exhaust.
- Fugitive dust sources including sand, unpaved roads, cattle feedlots, construction activities, quarrying, mining, and storage operations.

The nature and magnitude of the particulates problem in any given location is dependent on the local geography and meteorology and on the nature and density of local land use activities.

It is important that the agency identify the source of the TSP problem in its particular location. If a city is currently exceeding TSP air quality standards in spite of compliance by major stationary sources with emission regulations, the implication is that further stationary source controls may be futile and that achievement of particulate standards may be contingent upon application of more difficult to implement control measures for fugitive and area sources.

Those factors to be considered in a TSP study include, among other things, (1) an up-to-date reassessment of the nature and magnitude of the TSP problem, (2) compliance status and emissions data for the area as a whole and for the sources particularly affecting sites not meeting the standards, (3) control regulations and enforcement action and the nature of control practices prompted thereby, and (4) background information to characterize the geographical distribution and nature of the industrial mix of the area.

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*Whenever this section refers to the "agency" performing air quality planning or analysis the reference is intended to be general and can be interpreted to mean EPA, the state air quality agency, a substate air agency, or consultants to any of these.

6.1.1.1 APPLICATIONS OF AIR QUALITY DATA

Information available in the SAROAD files is useful in assessing the magnitude of the TSP problem in an area. Federal Primary Standards require that the annual geometric mean of 75 $\mu g/m^3$ not be exceeded for TSP. By comparing current TSP levels to this standard, the degree of total reduction required to achieve the standards can be estimated.

A readily available and up-to-date SAROAD file provides sufficient information for an agency to assess current TSP levels in an area relative to the national standards. Specifically, Standard SAROAD Reports (Paragraph 2.3.1.4) show, for each monitoring site within a specified geographical region, the daily and annual geometric mean TSP levels. The report flags with an asterisk all measurements that exceed the primary standard.

To investigate seasonal variations in TSP levels, Quarterly Frequency Distributions Summary Reports (Paragraph 2.3.2.2) provide quarterly geometric mean TSP levels. Both reports can save the agency considerable effort in calculating geometric mean TSP levels.

For the purpose of analyzing the TSP problem in a given area, the agency will want to retrieve Quarterly Frequency Distribution Summary Reports for all monitoring sites in the study area for as far back as data have been collected so that trends can be established and analyzed. The agency will also evaluate the site locations and the monitoring procedures to aid in interpreting the observed trends. The QAMIS reports (see Section 6.3.0) may be used to evaluate the reliability of reported data.

The data in the SAROAD file will also help the agency determine the effects of past regulations on particulate levels. Several sites' data prior to the regulation can be compared to data after the regulation became effective and two sets of observations can be analyzed for statistically significant differences. Graphs of ambient air levels can be generated to show trends of particulate levels before and after the regulation.

6.1.1.2 APPLICATION OF EMISSIONS DATA

The degree to which TSP levels in a given area are dependent on particulate emissions in that area has been the subject of a major research effort funded by EPA. Preliminary indications are that, although TSP levels and particulate emissions are closely related, other factors including meteorology and particulates transport over long distances are also important.

When analyzing the TSP problem in a specific area, it is important that the agency assess the relationship between TSP levels and particulate emissions from measurable sources so that effective strategies for controlling TSP levels can be identified.

To conduct such an analysis it is necessary to have at hand an emissions inventory of measurable sources, summarized by type, including historical trends of the summary and future projections as well as an indication of likely fugitive dust, mobile sources, or other noninventoried sources around each monitoring site.

The NEDS files do not provide detailed information on likely fugitive dust or mobile sources around particular monitoring sites. These require a land use inventory that can be obtained from aerial photos, land use maps, or a brief on-site survey and from detailed traffic data available from local traffic engineers.

Information available in the NEDS files is useful in assessing the point and area sources of the particulates problem in an area. Several readily available NEDS reports provide sufficiently detailed information on both point sources and nonvehicular area sources for the agency to determine the nature of the TSP problem and the likely impact of proposed remedial action on TSP levels. The following NEDS reports are useful:

- Raw Data Reports (Paragraph 2.1.1.0)
    - A listing of emissions by all point sources is available in a "Point Source Report" (Paragraph 2.1.1.1). This is particularly valuable in identifying major sources, the nature and location of the activity in relation to the monitoring site, and the status of compliance with existing regulations.
    - A listing of emissions by point sources emitting over a specified level of particulates is available in a "Condensed Point Source Report" (Paragraph 2.1.1.2). This limits the amount of source-level data, is more expeditious and may still serve the purpose.
    - Emissions from area sources are available in an "Area Source Report" (Paragraph 2.1.1.3) and are useful in analyzing the contribution of minor stationary and miscellaneous sources to total TSP emissions in an area.
- Summary Reports (Paragraph 2.1.2.0)
    - A listing of major plants and the tons of particulates emitted by each is available from a "Plant Emission Summary Report" (Paragraph 2.1.2.1) and is useful when analyzing the impact of further emission reductions at specific sources rather than at entire industries.

- A listing of pollutants emitted by Source Classification Code (SCC) category is available from an "SCC Emission Report" (Paragraph 2.1.2.5) and is useful when analyzing the impact of further emission reductions required of entire industries rather than of specific sources.

- An "Emission Summary Report" (Paragraph 2.1.2.1) presents total particulate emissions by SCC and may be useful in comparing the relationship between emissions and TSP levels for several geographical areas.

The data provided in these files provides information that is useful in identifying the source of the TSP problem as well as in identifying and analyzing the impact of additional controls that may be proposed to remedy the problem.

The Clean Air Act requires EPA to establish national "primary" air quality standards strict enough to protect all members of the population from adverse health effects caused by air pollutants including carbon monoxide and photochemical oxidants. It then requires each state to have in effect an "implementation plan" (SIP) to achieve these standards throughout its territory. If the state does not submit an appropriate implementation plan the Act requires EPA to promulgate an appropriate plan for the state.

The automobile is the source of nearly all carbon monoxide and a majority of the hydrocarbons that form photochemical oxidants. Although the Federal Motor Vehicle Emissions Control Program ("FMVECP") established by the Clean Air Act requires all new automobiles to meet strict emission standards for these pollutants, this program taken together with stationary sources controls proposed in the SIP will, in many cases, not assure that the national primary air quality standards will be achieved. As a result many SIP's require further control of emissions from vehicular sources for EPA approval. The document that incorporates such controls into the SIP is called a Transportation Control Plan (TCP).

Those factors to be considered in the TCP include, among other things: (1) an up-to-date verification and reassessment of the nature and magnitude of the air pollution problem, (2) a re-evaluation of the impact of stationary source controls and FMVECP proposed in other sections of the SIP, (3) an analysis of the impact of proposed transportation control measures on air quality, and (4) a comparison of the total estimated emission reductions achieved by all proposed control measures and the total estimated emission to achieve the national air quality standards.

In many cases, FMVECP and first cut stationary source and transportation controls will not be sufficient to achieve the standards. In these cases it is necessary to iterate through the SIP to propose additional controls that will further reduce nonvehicular and vehicular emissions until the required reductions are achieved.

6.1.2.1 APPLICATION OF AIR QUALITY DATA

Information available in the SAROAD files is useful in assessing the magnitude of the air quality problem in an Air Quality Control Region (AQCR). Federal regulations require that the following air quality standards not be exceeded for carbon monoxide and for photochemical oxidants:

- Carbon Monoxide
    - The second-highest hourly average concentration must not exceed 35 ppm.

  - The second-highest nonoverlapping 8-hour average concentration must not exceed 9 ppm.

- Oxidants
  - The second-highest hourly average concentration must not exceed 0.08 ppm.

By comparing current values of these measures to the national standards, the degree of total emissions reduction required to achieve the standards can be estimated.

A readily available and up-to-date SAROAD file provides sufficient information for an agency* to assess the air quality of an area. Specifically, Standard SAROAD Reports (Paragraph 2.3.1.4) show, for each pollutant-site combination within a specified geographical region, the individual hourly observation of that pollutant. To reduce the effort in identifying the second-highest hourly average, these reports flag with an asterisk all measurements that exceed the standards. Also, a standard SAROAD report is available that shows the 8-hour running average concentration of carbon monoxide and also flags those values that exceed the standards. This report saves the agency considerable effort in calculating these averages and in identifying the second-highest nonoverlapping 8-hour average.

For the purpose of analyzing a typical TCP, the agency will want to retrieve these three reports for all monitoring sites in an AQCR for a specified base year, and for earlier years, in order to assess the air quality problem and to recognize trends in the air quality to the region.

6.1.2.2 APPLICATION OF EMISSIONS DATA

Because concentrations of pollutants by which the air quality of an AQCR is judged are highly correlated with the emissions of those pollutants within the AQCR, it follows that the air quality will improve when emissions are reduced. It then becomes essential to have available an emissions source inventory and an estimate of future emissions describing the nature of each source and the contribution of related emissions to the total emissions so that effective control strategies can be proposed and their impact on air quality analyzed. The following information is required to estimate emissions of carbon monoxide and of hydrocarbons:

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*Whenever this section refers to the "agency" performing air quality planning or analysis the reference is intended to be general and can be interpreted to mean EPA, the state air quality agency, a sub-state air agency, or consultants to any of these.

- Carbon Monoxide
    - Because nearly all CO is produced by vehicular sources it is not necessary to analyze CO emissions from nonvehicular sources.
    - It is necessary to calculate CO emissions as a function of vehicle miles traveled by vehicle age and type and of typical vehicular operating characteristics (speed) over the street network.
- Hydrocarbons
    - In addition to vehicular sources, oxidant-forming hydrocarbons are produced by fossil fuel combustion, evaporation from storage facilities, and direct discharge by various industrial processes. Although the formation of oxidants is dependent on meteorological conditions, the formation of oxidants in an area is directly proportional to the hydrocarbons emitted in that area.

It is necessary to estimate hydrocarbon emissions from both vehicular and nonvehicular sources. Nonvehicular sources are further segmented into "area" and "point" sources. The distinction between area and point sources is arbitrarily made on the basis of the spatial distribution and magnitude of emissions from the source. For example, a power plant that emits 500 tons of hydrocarbons per year warrants individual attention and is treated as a point source. On the other hand a gas station that emits 5 tons of hydrocarbons per year may not warrant the individual attention afforded a point source but together with 100 other gas stations may warrant collective attention as an area source.

The NEDS files do not provide sufficiently detailed information to assess the magnitude of carbon monoxide and hydrocarobn emissions from vehicular sources. This analysis requires detailed traffic information described above. However, the NEDS "Area Source Report" (Paragraph 2.1.1.3) provides an estimate of fuel used by mobile sources by state and county. This information, used together with average fuel consumption rates, provides a "ballpark" check of total vehicle miles traveled in a study area.

Information available in the NEDS files is useful in assessing the nonvehicular sources of the oxidants problem in an AQCR. Several readily available NEDS reports provide sufficient information on both point sources and nonvehicular area sources for the agency to determine the impact of proposed stationary source controls on air quality. The degree of detail required for the analysis is dependent on the control strategy to be analyzed and the technique used to perform the analysis. For example, the linear rollback technique implies that all sources will reduce their emissions by an amount proportional to the total required emission reduction from all sources. In other words, if it is desired that stationary sources emit 40 percent fewer hydrocarbons, then it is assumed that all sources will reduce their existing emissions by 40 percent.

Linear rollback is a technique that allows one to convert changes in total emissions to changes in pollutant concentrations. The technique assumes that the concentration of a pollutant is equal to the background concentration of that pollutant plus some linear function of the emission rate of the pollutant.

The emission reduction required to meet a national standard is equal to the difference between the existing emissions and the allowable emissions, which can be calculated by comparing the national standard to the background concentration (which is usually quite small). The required reduction can be expressed as a percentage as follows:

$$\begin{array}{l}\text{\% reduction} \\ \text{required}\end{array} = \frac{\text{(existing emissions)} - \text{(allowable emissions)}}{\text{(existing emissions)}} \times 100$$

The data required to perform this analysis are found in an aggregate summary of total emissions from stationary sources in a given AQCR available from NEDS "Emissions Summary Reports" (Paragraph 2.1.2.1).

An emission control strategy that distinguishes among stationary sources requires a more disaggregate analysis. For example, if it is desired that particular point sources (e.g., power plants) or area sources categories (e.g., dry cleaning industry) reduce their emissions by certain percentages, it is necessary to know the existing emissions from those particular sources or specific industries. The data required to perform an analysis on this level are found in the following NEDS Reports:

- Raw Data Reports (Paragraph 2.1.1.0)
    - A listing of emissions by all point sources is available in "Point Sources Report" (paragraph 2.1.1.1) but may not be necessary unless point sources are to be controlled individually.
    - A listing of emissions by point sources emitting over a specified level of pollutants is available in the""Condensed Point Source Report" (Paragraph 2.1.1.2) and may be more to the point.

  - Emissions from area sources are available in the "Area Source Report" (Paragraph 2.1.1.3) that will be useful in analyzing emissions from stationary and miscellaneous sources by state and county.

- Summary Reports (Paragraph 2.1.2.0)
  - A listing of major plants and the pollution emitted by each is available from the "Plant Emission Summary Report" (Paragraph 2.1.2) and is useful when analyzing the impact of controls aimed at specific sources rather than industries.
  - A listing of pollutant emitted by Source Classification Code (SCC) category is available from the "SCC Emission Report" (Paragraph 2.1.2.5) and is useful when analyzing the impact of controls aimed at industry categories rather than specific sources.

The information provided in these files is not only useful in analyzing the air quality impact of proposed controls of stationary sources but also provides useful information for developing more effective control strategies through greater understanding of the sources of the problem.

Data from the NEDS and SAROAD systems can be of considerable value in the development of Air Quality Maintenance Plans. Maintenance plans are required by EPA regulations as a supplement to the air quality planning in State Implementation Plans, which have related primarily to the initial attainment of air quality standards. Maintenance planning is directed toward ensuring that air quality standards will not be violated over the long term. In the development of these plans, a modeling approach can be employed to relate future air quality trends to forecasted emission patterns resulting from residential and industrial growth or new source performance standards. A multi-source diffusion model such as CDM* can be validated for a given base year using point and area source emissions from NEDS and monitoring information from SAROAD. Point source parameters used in the modeling exercise include location by UTM coordinates, emission rate, stack height, stack diameter, gas exit velocity, and gas temperature. Countywide total area source emissions for the industrial, commercial, residential, and transportation sectors may be disaggregated by means of the Computer Assisted Area Source Emissions (CAASE) allocation procedure. These point and area source emissions, assigned to a grid system, serve as input to a diffusion model that will calculate, for appropriate meteorological variables, pollutant concentrations for a number of actual receptor locations. Measured and calculated concentrations are then compared to determine whether an acceptable correlation exists between the two sets of values.

If the measured concentrations are well correlated with the model-calculated concentrations, the model is suitably validated for the study region. The model may then be calibrated for background concentrations and for modeling bias by relating the measured and calculated observations by means of a linear least squares fit. The least squares fit finds a linear relationship of the form:

$$X_f = aX_c + b$$

where X_c is a model-calculated concentration

X_f is a "fitted" concentration

The coefficients a and b are determined from the calculated and measured concentrations so as to make X_f (fitted concentration) a statistically best estimate of the actual concentrations, for a given calculated concentration.

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*Climatological Dispersion Model. For example see Busse, A.D. and J.R. Simmermen. Users Guide for the Climatological Dispersion Model. U.S. Environmental Protection Agency, Research Triangle Park, N.C. Publication No. EPA-R4-73-024. December 1973.

Once the model is calibrated for a base year, the NEDS point and area emissions for that year can be projected on the basis of expected growth in population, industrial employment or earnings. Large point sources and expected new sources may be considered separately to estimate future emission rates.

The calibrated model can then be applied to the NEDS projected emissions, and pollutant concentrations calculated for an array of receptor locations. Application of the calibraton equation to each of the calculated concentrations then yields the statistically best estimate of pollutant concentrations under the projected growth.

The SOTDAT System is designed to store and retrieve all of the relevant technical data collected during the measurement of pollutant emissions from point sources. The process whereby these measurements are generated is called stack testing; hence, the term "Source Test Data" or SOTDAT. The original purpose of the SOTDAT system was to provide an automated means of updating and improving emission factors for specific Source Classification Codes in the NEDS Emission Factor File. During the 2 years since the initial design of SOTDAT, however, other applications have been developed for that system. Examples of these are equipment performance evaluations, cost analyses of pollution control equipment, and support to the EPA surveillance and enforcement activities.

The primary use for SOTDAT remains the development and introduction of modifications and improvements to the EPA emission factors. This application is described in further detail in the following section.

Ideally, actual measurement results (stack test data, etc.) would be used to compute emissions from all point sources and area source categories. As a practical matter, however, because of the very large number of sources and their great diversity it would be difficult and expensive to conduct field measurements at the point of release of emissions on a source-by-source basis for the entire nation or any large part thereof. The alternative that has been employed is to develop and apply generalized estimates of typical emissions from each of the various source types, taking into account as many of the determining factors and parameters as can be feasibly done in each case.

These generalized estimates of emissions are usually made through the use of emission factors. An emission factor is defined as an estimate of the rate at which a pollutant is released to the ambient atmosphere as a result of some activity, such as combustion or industrial processing, divided by the level of that activity. In other words, an emission factor relates the quantity of pollutant emitted to some activity level such as production rate, quantity of fuel burned or vehicle miles traveled. Some emission factors are quite reliable, being based on relatively precise empirical formulas involving the various design or process parameters such as storage tank diameter, ambient temperature, or reactant concentrations. Most factors, however, are based upon statistical averages of source test measurements or on process material balances or mere engineering estimates of a given process.

Because most of the emission factors currently available for use were based on a limited number of source test data at best, and in some cases not even a single measurement, it is of great importance to improve and update these factors as often as new or more reliable data from actual source tests become available. The SOTDAT system was developed for this purpose. As of early 1975, approximately 500 source tests, each one consisting of from three to five separate "runs," had been incorporated into the SOTDAT files. As the number of source test results increases, the SOTDAT system will prove to be more and more valuable in serving as the basis for the steady improvement of the reliability of the NEDS emission factors. In addition the SOTDAT system provides basic data for the calculation of emission factor precision (measured as standard deviation). This is required in the emission inventory precision analysis of the Source Inventory and Emission Factor Analysis System (SIEFA - Section 3.1.0).

The SOTDAT output provides the following information relative to emission factors for each stack test run:

- Measured emissions of a pollutant
- Plant process rate in the appropriate SCC units
- Fuel composition (% sulfur and % ash)

An estimate of the emission factor for the measured pollutant as emitted by the tested SCC is made by the following equations:

$$\text{Emission factors} = \frac{\text{measured emissions}}{\text{process rate}}$$

or, in the case of SO_2 or particulate emission factors:

$$\text{Emission factors} = \frac{\text{measured emissions}}{\text{process rate x \% composition}}$$

where % composition is % sulfur in the fuel or % ash in the fuel for SO_2 and particulate emissions, respectively.

An emission factor based on the above calculation for a single stack test is insufficient to establish a reliable value, however. Only after stack test data for numerous sources within a given SCC have been analyzed, can this factor be established with some precision. When sufficient data are available from SOTDAT, a statistically unbiased emission factor is derived by averaging the estimates from each stack test or each run. An estimate of emission factor precision (for use in SIEFA) is derived by taking the standard deviation of the individual emission factor estimates.

Because of the ever-changing nature of industrial processes, transportation systems, and fuel consumption, the process of updating and improving emission factors is a continuing activity. However, the attainment of a major set of validated emission factors based on many well-conducted source tests, particularly when industrial parameters can be incorporated therein, is essential in obtaining reliable, precise, and accurate emissions inventory data.

The Quality Assurance Information System (QAMIS) is designed to store information on the quality control measures observed by agencies in their air quality monitoring activities. This system provides a rating for each agency in order to give an indication of the reliability of the air quality data generated by that agency's monitoring activities. This quality control information should be utilized whenever SAROAD data are used, so as to establish the reliability of projections and calculations that are based on SAROAD information.

The primary purpose of QAMIS is to evaluate existing procedures and to aid in the effort to establish standards of quality control in all air monitoring activities.

The State Implementation Plan System was designed to provide an automatic procedure for referencing the rules and regulations of the various State Implementation plans. The states are required, by Federal regulation, to have in effect an "implementation plan" (SIP) that will ensure attainment of national air quality standards. The primary thrust of the SIP is to enact regulations designed to control emissions from known pollutant sources to the extent that these air quality standards will be achieved and maintained.

A typical SIP includes specific information regarding (1) what pollutants are controlled, (2) what geographical areas are affected, (3) what industries are affected, (4) an assessment of current emission regulations, and (5) a description and estimated impact of planned regulatory action on air quality.

Information available in the SIP's files, in conjunction with air quality data available in the SAROAD files and an emissions inventory available in the NEDS files, is useful in assessing the effectiveness of specific emissions regulations. This can be accomplished by observing the historical trend of specific pollutant levels (SAROAD) in relation to emission regulations specified in the SIP (SIP's) and the status of compliance to these regulations (NEDS). For example, if concentration levels at a specific site decreased during a time when emission reductions were achieved as a result of compliance to a specific set of regulations, it is possible to credit the improvement in air quality to the regulations (assuming that all other important variables remained constant or changed in a manner such that the impact of that change is quantifiable). Research leading to a quantifiable relationship between various degrees of compliance to specific regulations and corresponding air quality improvement may be of substantial value to states contemplating the enactment of similar regulations.

A useful feature of SIP's allows a state to retrieve the text of all existing regulations controlling emissions from any one of 21 types of sources of a pollutant for all states. Information available in the text such as legal authority requirements, general control strategy, etc., will provide some guidance to other states in promulgating technically and politically feasible regulations to control that pollutant.

The Federal Power Commission - Form 67 (FPC-67) is a compilation, collected each year by the Federal Power Commission, of operating data from each of the major power plants in the United States. Included with the FPC data for each plant is an estimate of pollutant emissions for each of the criteria pollutants.

Because emissions from electric generation form a major part of a nationwide air pollutant emission inventory, the FPC-67 data are important to the EPA in assessing the impact of this source type and in evaluating control measures for emissions from power plants. For example, where the impact of fuel shortages require consideration of conversion of power plants to less clean forms of fuel (such as coal), it is necessary to carefully assess the adverse impact on air quality of such a switch. The FPC-67 system provides all of the power plant operating information that is required for such an assessment. The application of diffusion modeling techniques, using these data, provides a sound basis for assessing the impact of a fuel switch.

Another application of the FPC-67 data has been to utilize the boiler design and operational data to relate combustion system characteristics to emissions characteristics. The purpose of this work was to provide information that may help direct future activities in emission control studies, source testing, and emissions factor improvement. The two applications are discussed in greater detail in the following sections.

One important application of FPC Form 67 data system is in the construction of model input data for the analysis of the air quality impact of fuel switching alternatives at major electric generating facilities (e.g., coal conversion). The detailed modeling approach employed in this analysis requires the following input parameters--all available from the FPC-67 data system.

- Monthly fuel consumption
- Sulfur content of fuel
- Ash content of fuel
- Efficiency of particle collection and gas cleaning equipment
- Stack height
- Stack diameter
- Exit gas temperature (for different loading conditions)
- Exit gas velocity (for different loading conditions)

With representative meteorological data, diffusion model calculations may be carried out to estimate SO_2 or particulate concentrations for a wide range of receptor locations at various distances and headings from the power plant. If actual measurement data exist for some of these locations, then a comparison may be made between observed and calculated emissions for reported operating conditions. This validation comparison may be made between the cumulative frequency distributions of concentrations as measured and as predicted. If sufficient data points are available, they may also be utilized to calibrate the model for the particular conditions under study by a linear regression of measured concentrations on the calculated concentrations (see Section 6.1.3). In any event, before carrying out a validation exercise, some effort must be made to determine background concentration levels of the pollutants in question and to subtract these levels from observed concentrations in order to isolate the effect of the plant under study. Generally, background concentrations are sufficiently well estimated by averaging the concentration observations gathered from those monitoring stations upwind of the emission point.

Once the model has been suitably validated and calibrated, a new set of fuel consumption data must be generated to reflect the fuel switchover alternatives. The new fuel consumption figures will reflect equivalent generating capacity to that reported in the FPC-67 system. Using the new source data as a basis for plant emission rates, the calibrated model is then run to predict emission levels due to the modified plant. These predicted emissions must be corrected to include background concentrations, or if a calibration equation has been generated, they must be modified by the calibration equation to provide comparible estimates of air quality under the proposed switchover.

Because the FPC-67 system provides monthly fuel consumption information, the modeling effort can be carried out using monthly or quarterly data in order to estimate the seasonal variations in the impact of the power plant emissions, and thus the fuel switching options can be evaluated on a seasonal basis.

One recent application of the data compiled by the FPC-67 system has been to relate emissions characteristics for conventional combustion systems to boiler type and boiler design characteristics. For this purpose, the FPC-67 file was obtained in computer-readable form (tape), and the data contained therein were categorized and summarized by the following classifications:

- Boiler size
- Furnace type
- Fuel(s) burned
- Firing patterns
- Fly ash reinjection (yes or no)

The information summarized in this classification included the following:

- Fuel consumption
- Steam and electric capacity
- Age
- Emissions

There are many areas in which EPA or other Federal, state, of local agencies may use these data. For instance, NO_x emissions and control method effectiveness appear to be related to boiler size, furnace type, and firing pattern. Therefore, the Control System Laboratory of EPA may use the data to prioritize NO_x control research and development programs. Similiarly, particulate emissions and control device performance are affected by furnace types and the data summaries may help to plan testing and development efforts. Other agencies or groups may use the summaries for emission factor improvements (including trace elements), estimating effects of various fuel switching strategies, and planning combustion technology research and development.

A number of auxiliary data files are maintained by the EPA, primarily as base data sources for calculating and apportioning air pollution emissions, or for recognizing possible point emission sources. Some of these files are maintained by the EPA; others are generated and updated by other agencies or organizations and are purchased by the EPA for use in their activities.

The primary activity supported by the auxiliary files is the updating of emission inventories for NEDS. In these activities, files such as census data and Polk vehicle registration data are used to estimate and apportion area source emissions. These applications are discussed in detail in the following sections.

An important step in maintaining the air quality in a region is to provide an accurate inventory of sources and components of air pollution. This requirement is provided for by the emission inventory of the National Emissions Data System (NEDS). The identification of sources, pollutants, locations, and quantities of emissions provide the initial step for a plan of action for improving the air quality, and therefore the maintenance and updating of this inventory is vital for the abatement of emissions and for monitoring sources.

In order to insure that the data in the NEDS system are current and as correct as possible, the Environmental Protection Agency requires all states to update their emission inventory semi-annually. Any changes with respect to existing point sources, such as process flow rates, stack data, control equipment, etc., are to be incorporated into the semi-annual updates. Any new point sources are to be reported in the updates using the NEDS point source format. (See Section 2.1.1.e.)

Emissions from area sources (numerous sources too small to be considered point sources) are to be estimated and updated using the best available information. The area source form shown in Figure 2.1.1.f. is used in reporting this data.

Various auxiliary data files available from the EPA are a useful aid to an agency in updating its emission inventory. Two examples of these applications are given below.

6.6.1.1 APPLICATION OF CENSUS DATA TAPES

The information available on the Census Data Tapes is used as a basis for allocation of NEDS area source data. The census data may be used to apportion emissions from the state level to the county level or, in conjunction with emission factors, may be used to estimate emissions within the county.

Emissions from some area source categories are based on population and can be calculated from population-based emission factors. Examples of these are emissions from:

- Waste disposal - based on pounds of solid waste per urban person per day
- Dry cleaning - based on pound of solvent evaporated per person per year
- Surface coating - based on pounds of solvent evaporated per person per year

In other cases, population information is required as a basis for apportioning emission data down to the county level. If, for example, total residential fuel usage is known for the entire state, it will be necessary, in order to complete the area source emissions inventory, to apportion that total among the counties (area sources) within the state. A proper basis for this apportionment is the census of housing. Thus housing census data are used to divide the state total residential fuel usage among counties in direct proportion to the number of residences within each county.

Other examples of emissions data that may be apportioned on the basis of census information (provided accurate data are not otherwise available at the county level) are the following:

- Railroad fuel use - apportioned by population on the assumption that most rail operations take place within population centers.
- Commercial and institutional fuel use - apportioned by population on the assumption that these activities take place in population centers.
- Industrial fuel use - apportioned by manufacturing employment.
- Residential, commercial, institutional on site incineration - apportioned by population.
- Motor vehicle gasoline use - apportioned by population if vehicle-mile data or service station sales data are not available.

It should be noted that where more detailed apportioning may be required (e.g., to a relatively fine grid system) the Computer Assisted Area Source Emission Gridding Procedure (CAASE) can be used. This system utilizes data from the census of population as a basis for allocating emissions from the county level to an appropriate grid network.

6.6.1.2 APPLICATION OF POLK VEHICLE REGISTRATION DATA

To determine the extent of emissions generated from motor vehicle sources, the number of light-duty (under 6,000 pounds gross weight) and heavy duty (over 6,000 pounds gross vehicle weight) vehicles is required. The Polk Vehicle Registration Data contains the number of registered automobiles and registered trucks by make and model year for the past 10 most recent years. By using these data, it is possible to determine the vehicle "mix" within a county. Based on the vehicle "mix," both gasoline and diesel fuel can be apportioned to the county based on the total state consumption of gasoline and diesel fuel.

The Polk data file can also be used to apportion evaporative emissions resulting from the marketing of gasoline. Usually state figures are availabl for the quantity of gasoline sold within a state. By using the number of registered vehicles within a county, compared to the number of registered vehicles in the state, county gasoline evaporative losses can be determine Polk vehicle mix data will also be used to calculate county-specific automotive emission factors to be used to calculate area source emissions.

Any user who has established valid account codes and user identification codes at NCC has access to the AEROS data files. He may develop his own custom programs to access these files and output the data in the format(s) he desires. Any such custom programming that is done is requested to be brought to the attention of the Reports and Information Section for NADB's analysis of potential application for other users.

ENVIRONMENTAL PROTECTION AGENCY	SECTION OPEN	SECTION 7	CHAPTER 1	SUBJECT 0
NATIONAL AIR DATA BRANCH	CHAPTER	DATE		PAGE
VOLUME III. AERCS SUMMARY AND RETRIEVAL MANUAL	SUBJECT			

The following section contains AEROS file descriptions and record layouts of the more significant NADB files. These descriptions will be updated and expanded as needed. These file descriptions are given for the use of those experienced programmers who wish to do their own programming against the NADB files. Users are warned never to exclusively assign a NADB file. These file descriptions will also be in the NADB-DESC library and it is recommended that programmers use the COBOL Copy or the FORTRAN Include to insert these definitions into their programs. By doing this, program modifications necessitated by changes to the NADB file definitions will be minimized. NADB is providing these definitions as a convenience only. Programming UNIVAC system questions should be directed to the National Computer Center, User Services Section. Potential users should also read Volume IV, Section 4.3.7 (Non-NADB Development).

7.2.1.1 CITY-COUNTY

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	AERO-CTYCNTY	June 5, 1975

FILE DESCRIPTION AND USE

Contains the names, populations, and state/area keys for every county (and/or analogous area) in the U. S. and each city with a population equal to or greater than 2500 (in Vermont this includes every village). Flags are entered to distinguish counties from cities. If a flag is equal to a blank, a city or state is indicated. If a flag is equal to a '*' a county is indicated.

USES:

Cross-reference; ID file for most reports. Also used by some NEDS report programs.

FILE TYPE

☐ SDF ☒ ASCII COBOL ☐ FORTRAN ☐ OTHER
☐ PRINT FILE ☐ SEQUENTIAL ☐ FORMATTED
☐ PUNCH FILE ☐ DIRECT ☐ UNFORMATTED
☐ ☒ INDEXED-SEQUENTIAL ☐

STORAGE MEDIUM

☒ DISK
☐ TAPE ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB-DESC
PROC NAME NADBCITYISAM

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN

RECORD SIZE

☒ FIXED LENGTH: 39 CHARACTERS
☐ VARIABLE LENGTH: ______ THRU ______ CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 89 ☐ CHARACTERS ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

6 CHARACTERS LONG
CONTENT: STATE, CITY OR COUNTY OR 4 BLANKS

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: AE226 (PROGRAM NAME)
FILE SIZE: 127 tracks AS OF 09/4/75
UPDATE FREQUENCY: Every ten years (TIME INTERVAL)
ANTICIPATED GROWTH: 25 to 50 ☒ RECORD ☐ TRACKS PER ______

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT: ______
FILE NAME: AERO-CTYCNTY-T
FREQUENCY: Every Ten years
NUMBER OF GENERATIONS KEPT: 2

7.2.1.2 AERO-AQCR

AEROS FILE DESCRIPTION

QUALIFIER NADB

FILE NAME AERO-AQCR

DATE

FILE DESCRIPTION AND USE

File consists of one record for each of 247 Air Quality Control Regions (AQCR), containing AQCR code, name, area in square miles, popultion, pollutant classification codes, number of counties making up the AQCR, and a six-digit identifier for each state (county within the AQC, up to 100 counties).

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ______
☒ ASCII COBOL
☐ SEQUENTIAL
☐ DIRECT
☒ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ______
☐ OTHER

STORAGE MEDIUM

☒ DISK
☐ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ ______

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ______

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB-DESC
PROC NAME AERO-AQCR

RECORDING MODE

☒ INTERNAL
☐ COMPACT
☐ CFH
☐ F ☐ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

☐ FIXED LENGTH: ______ CHARACTERS
☒ VARIABLE LENGTH: 95 THRU 689 CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 2083 ☒ CHARACTERS ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

3 CHARACTERS LONG
CONTENT: AQCR

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: AE029 (PROGRAM NAME)
FILE SIZE: 25 tracks AS OF 09/4/75
UPDATE FREQUENCY: N/A (TIME INTERVAL)
ANTICIPATED GROWTH: ~~N/A~~ ☐ RECORD ☐ TRACKS PER ______

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☐ [illegible]
MEDIUM: ☐ CARDS ☐ TAPE ☐ [illegible]
LOCATED AT: ______
FILE NAME: ______
[illegible]
NUMBER OF GENERATIONS KEPT: ______

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
AEROAQCR	AQCR-REC

APPLICATION	DATE	PAGE
AEDS		1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	95	95		AQCR-REC	Air quality control region record
1		3	X(3)	IS-AQCR-NBR	Control region number
4	5	55	X(55)	IS-AQCR-NME	Control region name
59	5	7	ZZZ,ZZZ	IS-AQCR-AREA	Control region area
66	5	10	ZZ,ZZZ,ZZZ	IS-AQCR-POP	Population of area
76	87	12	X(12)	FILLER	Unused (See Note 1)
88	89	2	S9(5)COMP	ST-CO-CNT	State county count
90	95	6	X(6)	SFCO-COD	County identifier (occurs 1 to 100 times depending on ST-CO-CNT)

(Note 1) This field contains Priority and Classification Codes. The priorties are based on an observed air quality levels or estimates. A level '1' area has poor air quality and a level '3' area has clean air. If AQCR is level '1' primarily due to one source it is qualified as a level '1A' AQCR.

Particulates and SULFUR-DIOXIDE, can have levels of '1','2', and '3'. NITROGEN DIOXIDE, HYDROCARBONS, CARBON-MONOXIDE AND PHOTOCHEMICAL = OXIDANTS can only have values '1' and '3'.

GGESTED REDEFINITION OF FILLER:

76	77	2		PARTICULATE	
7	76	1	X	PART-CLASS	Classification
7	77	1	X	PART-PRIO	Single Point Emission Significance
[illegible]	79	2		SULFUR-DIOXIDE	
8	78	1	X	SOL-CLASS	Classification
9	79	1	X	SOL-PRIO	Single Point Emission Significance
80	81	2		NITROGEN-DIOXIDE	
80	80	1	X	NOX-CLASS	Classification
81	81	1	X	NOX-PRIO	Single Point Emission Significance
82	83	2		HYDROCARBONS	
82	82	1	X	HC-CLASS	Classification

FILE NAME/DESCRIPTION AERO-AQCR		RECORD NAME/DESCRIPTION AQCR-REC	
APPLICATION AEROS	DATE	PAGE 2 OF 2	

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
83	83	1	X	HC-PRIO	Single Point Emission Significance
84	85	2		CARBON-MONOXIDE	
84	84	1	X	CO-CLASS	Classification
85	85	1	X	CO-PRIO	Single Point Emission Significance
86	87	2		PHOTOCHEMICAL-OXIDANTS	
86	86	1	X	PC-CLASS	Classification
87	87	1	X	PC-PRIO	Single Point Emission Significance

7.2.1.3 AERO-SMSA

AEROS FILE DESCRIPTION

QUALIFIER: NADB
FILE NAME: AERO-SMSA
DATE: 05-19-75

FILE DESCRIPTION AND USE

This is an indexed-sequential mass-storage file of numbers and corresponding names of Standard Metropolitan Statistical Areas (SMSA). It contains one SMSA number and name per record, and the index key for each record is the 4-digit SMSA number.

USE: To be used by report programs to retrieve an SMSA name when the SMSA number is known.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ____________
☒ ASCII COBOL
☐ SEQUENTIAL
☐ DIRECT
☒ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ____________
☐ OTHER ____________

STORAGE MEDIUM

☒ DISK
☐ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ____________

CATALOGED FILE DESCRIPTION

☒ NO
☐ YES: FILE NAME ____________
PROC NAME ____________

RECORDING MODE

☐ INTERNAL
☐ COMPACT
☐ CFH
☐ ____________
☒ F ☒ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

☒ FIXED LENGTH: 45 CHARACTERS
☐ VARIABLE LENGTH: _____ THRU _____ CHARACTERS

BLOCKING

☒ UNBLOCKED
☐ BLOCKED: _____ ☐ CHARACTERS ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

4 CHARACTERS LONG
CONTENT: SMSA Number

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: AE033 (PROGRAM NAME)
FILE SIZE: 243 records AS OF 05-19-75
UPDATE FREQUENCY: only when lost (TIME INTERVAL)
ANTICIPATED GROWTH: none ☐ RECORD ☐ TRACKS ☐ PER ____________

FILE BACKUP

TYPE: ☐ NONE
☒ SYSTEM
☐ SPECIAL

MEDIUM: ☒ CARDS ☐ TAPE ☐ DISK

LOCATED AT: NADB
FILE NAME: SMSA CARDFILE
FREQUENCY: Permanent
NUMBER OF GENERATIONS KEPT: 1

FILE NAME/DESCRIPTION NADB*AERO-SMSA

RECORD NAME/DESCRIPTION SMSA-REC (Output record)

APPLICATION AEØ33

DATE 22 November 1974

PAGE 1 OF 1

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	4	4	X(4)	SMSA-NBR	SMSA Number
5	45	41	X(41)	SMSA-NME	SMSA Name

Read key for indexed-sequential access = SMSA Number (4 digits)

7.2.1.4 AERO-SMSA-NM

FILE DESCRIPTION AND USE

This file contains the numbers and names of the Standard Metropolitan Statistical Areas.

FILE TYPE

☐ SDF
- ☐ PRINT FILE
- ☐ PUNCH FILE
- ☐ ______

☑ ASCII COBOL
- ☐ SEQUENTIAL
- ☐ DIRECT
- ☒ INDEXED - SEQUENTIAL

☐ FORTRAN
- ☐ FORMATTED
- ☐ UNFORMATTED
- ☐ ______

☐ OTHER ______

CATALOGUED FILE DESCRIPTION

☑ YES: FILE NAME NADB-DESC
☐ NO PROC NAME SMSAFILEISAM

BLOCKING

☑ BLOCKED: 615 ☑ CHARACTERS ☐ RECORDS PER BLOCK
☐ UNBLOCKED

RECORD SIZE

☑ FIXED LENGTH: 615 CHARACTERS
☐ VARIABLE LENGTH: ______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE)

4 CHARACTERS LONG
CONTENT: SMSA NUMBER

RECORDING MODE

☑ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ______

FILE AVAILABILITY

☐ RESTRICTED
☑ PERMANENT
☐ TEMPORARY
☐ ______

STORAGE MEDIUM

☑ DISK
☐ TAPE ☐ LABELED ☐ UNLABELED
☐ CARDS
☐ ______

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA038 (PROGRAM NAME)
FILE SIZE: 1 Track AS OF 10/7/75
UPDATE FREQUENCY: Whenever needed (TIME INTERVAL)
ANTICIPATED GROWTH: None ☐ RECORD ☐ TRACKS ☐ ______ PER ______

FILE BACKUP

TYPE: ☐ NONE ☑ SYSTEM ☐ SPECIAL
MEDIUM: ☐ CARDS ☐ TAPE ☐ DISK
LOCATED AT: ______
FILE NAME: ______
FREQUENCY: ______
NUMBER OF GENERATIONS KEPT:

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7 · **CHAPTER** 2 · **SUBJECT** 1
NATIONAL AIR DATA BRANCH	**CHAPTER** File Description **SUBJECT** AEROS	**DATE** 3/11/76 · **PAGE** 9
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**	

FILE NAME/DESCRIPTION AERO-SMSA-NM	**RECORD NAME/DESCRIPTION** SMSA-REC

APPLICATION AERO	**DATE**	**PAGE** 1 **OF** 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	615	615		SMSA-REC	RECORD NAME
			X(41)	SMSA-NME	OCCURS 15 TIMES STANDARD METROPOLITAN AREA.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Description	**SECTION** 7 / **CHAPTER** 2 / **SUBJECT** 1
NATIONAL AIR DATA BRANCH	**SUBJECT** AEROS	**DATE** 3/11/76 / **PAGE** 10
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** NADB **FILE NAME** AERO-STEAQCR	

7.2.1.4 AERO-STEAQCR

FILE DESCRIPTION AND USE

NADB*AERO-STEAQCR is an indexed sequential file containing an AQCR number, a twelve character site identifier, and a single blank. The key is the AQCR-site identifier.

USE: This file is used primarily in AQCR-oriented site retrievals such as the Emissions/Air Quality Report.

FILE TYPE

☐ SDF
- ☐ PRINT FILE
- ☐ PUNCH FILE
- ☐ ____

☒ ASCII COBOL
- ☐ SEQUENTIAL
- ☐ DIRECT
- ☒ INDEXED - SEQUENTIAL

☐ FORTRAN
- ☐ FORMATTED
- ☐ UNFORMATTED
- ☐ ____

☐ OTHER ____

CATALOGUED FILE DESCRIPTION

☐ YES: FILE NAME ____

☒ NO PROC NAME ____

BLOCKING

☒ BLOCKED: 66 ☐ CHARACTERS ☒ RECORDS PER BLOCK

☐ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 16 CHARACTERS

☐ VARIABLE LENGTH: ____ THROUGH ____ CHARACTERS

KEY (IF APPLICABLE)

15 CHARACTERS LONG

CONTENT: AQCR-state-area-site-agency-project

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN

☐ COMPACT ☐ U ☐ AN

☐ CFH ☐ V ☐ AN

☐ ____

FILE AVAILABILITY

☐ RESTRICTED

☒ PERMANENT

☐ TEMPORARY

☐ ____

STORAGE MEDIUM

☒ DISK

☐ TAPE ☒ LABELED ☐ UNLABELED

☐ CARDS

☐ ____

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA041B (PROGRAM NAME)

FILE SIZE: ____ AS OF ____

UPDATE FREQUENCY: Monthly (TIME INTERVAL)

ANTICIPATED GROWTH: Small ☐ RECORD ☐ TRACKS ☐ ____ PER ____

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☐ SPECIAL

MEDIUM: ☐ CARDS ☐ TAPE ☐ DISK

LOCATED AT: ____

FILE NAME: ____

FREQUENCY: ____

NUMBER OF GENERATIONS KEPT:

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 1	
NATIONAL AIR DATA BRANCH	**CHAPTER** File Description	**DATE** 3/11/76	**PAGE** 11		
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** AEROS **QUALIFIER** **FILE NAME**				

FILE NAME/DESCRIPTION AERO-STEAQCR

RECORD NAME/DESCRIPTION AQCRFILE-RECORD

APPLICATION SAROAD

DATE

PAGE 2 **OF** 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	16	16		AQCRFILE-RECORD	Record
1	16	16	X(16)	FILLER	AQCR + SITE IDENTIFICATION and 1 blank AQCR (3) STATE (2) AREA (4) SITE (3) AGENCY (1) PROJECT (2) 1 BLANK

7.2.1.5 AERO-FPC-SUM

FILE NAME: NADB*AERO-FPC-SUM. (NADB*AERO-FPC-SBK. is used when this is an output file.)

ABSTRACT:

The tapes described by this file name contain the summary file of FPC Form 67 data from 1969 to the latest year included in the file. Records are sorted by company code, plant code, page, sheet, line and column of the form and year.

USES:

The file is used as input to program AE032 to produce an updated summary file and as input to program AE203 which generates reports displaying all data in the file for selected plants.

MEDIA AND AVAILABILITY:

File Media Tape x Disk ___ Cards ___

File Availability: Permanent Mounted ___ Restricted Use ___

FILE CHARACTERISTICS:

Label Usage: Standard x Non-Standard ___ Unlabeled ___

Record Format: Blocked x Unblocked ___ Blocksize 90 records

Record Type ___ Record Size 80 characters

ORGANIZATION AND STRUCTURE:

ORGANIZATION SEQUENTIAL, ACCESS MODE SEQUENTIAL Records are in ascending order by company code, plant code, page, sheet, line, column, and year. Record layout appears on the following page.

SIZE AND ANTICPATED GROWTH:

The summary file containing data for 1969 to 1971 consists of two 2400-inch tape reels. It is estimated that one additional reel will be required for each additional year's data included in the summary file.

UPDATED FREQUENCY:

Annually when a new tape of FPC Form 67 data is received.

BACKUPS:

The file can be recreated by rerunning program AE032 with the previous edition of this file and the latest update tape.

ASSOCIATED PROGRAMS:

AE032 - produces an updated summary file
AE203 - generates reports displaying all data in the file

COMMENTS:

When created as output to AE032, this file (NADB*AERO-FPC-SBK.) is assigned with options T and F so that the file may be assigned as NADB*AERO-FPC-SUM. for input and only reel-number verification will occur.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7 **CHAPTER** 2 **SUBJECT** 1
NATIONAL AIR DATA BRANCH	**CHAPTER** File Description **SUBJECT** AEROS	**DATE** 3/11/76 **PAGE** 13
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**	

FILE NAME/DESCRIPTION
NADB*AERO-FPC-SUM.

RECORD NAME/DESCRIPTION INPUT-RECORD

INTERNAL FILE NAME INPUT-FILE

APPLICATION AE203

DATE January 31, 1975

PAGE 1 **OF** 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	70	70		INFO	Information on tape record.
1	4	4	X(4)	YEAR	Year of report.
5	8	4	X(4)	FILLER	'1215'
9	14	6	X(6)	COMPANY	FPC company code.
15	15	1	X	FILLER	'-'
16	19	4	X(4)	PLANT	FPC plant code.
20	26	7		ITEM-NO	Data item in Form 67.
20	21	2	99	PAGE-NO	Page in Form 67.
22	23	2	99	SHEET	Sheet in Form 67.
24	25	2	99	LINE-NO	Line in Form 67.
26	26	1	X	COL	Column in Form 67.
27	27	1	X	COL-27	Marks footnote record
28	28	1	X	COL-28	Type of data field.
29	70	42	X(42)	DATA-FIELD	Value of data item.
29	70	42		FOOT-NOTE-RECORD	Part of footnote text.
29	30	2	99	FT-NOTE-PART	Number of part.
31	70	40	X(40)	FT-NOTE	Text.
71	79	9	X(9)	FILLER	Record sequence number.
80	80	1	X	COL-80	Marks non-standard data.

7.2.1.6 AERO-FPC-NED

FILE NAME: NADB*AERO-FPC-NED

ABSTRACT:
Table of correspondences between FPC steam generating plant codes and NEDS point-IDs giving Source Classification Codes, ownership codes, Standard Industrial Classification codes, Air Quality Control Region numbers and UTM zones and coordinates where known and reason for any uncertainties.

USES:
Used by program AE203 to select FPC company and plant codes corresponding to any NEDS selection criteria.

MEDIA AND AVAILABILITY:
File Media Tape______ Disk x Cards______

File Availability: Permanent Mounted______ Restricted Use______

File Characteristics:
Label Usage: Standard x Non-Standard______ Unlabeled______

Record Format: Blocked x Unblocked______ Blocksize 90 records

Record Type______ Record Size 55 characters

ORGANIZATION AND STRUCTURE:
ORGANIZATION IS SEQUENTIAL. ACCESS MODE IS SEQUENTIAL. Record layout appears on next page.

SIZE AND ANTICPATED GROWTH:
Current size is 2730 records. Requires one additional record for each point added to FPC system.

UPDATED FREQUENCY:
Updated only when additional points are added to FPC system or additional information about correspondences is obtained.

BACKUPS:
Cards.

ASSOCIATED PROGRAMS:
AE203, AE034 (loads file)

COMMENTS:

FILE NAME/DESCRIPTION NADB*AERO-FPC-NED.	**RECORD NAME/DESCRIPTION** LOOKUP-TABLE	INTERNAL FILE NAME LOOKUP-FILE
APPLICATION AE203	**DATE** January 31, 1975	**PAGE** 1 **OF** 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	10	10		FPC-CODE	Federal Power Commission Company Plant Code.
1	6	6	X(6)	COMPANY-CODE	Code for power company.
7	10	4	XXXX	PLANT-CODE	Code for power plant.
11	12	2	XX	BOILER	Boiler number.
13	14	2	XX	PROBLEM-CODE	One or two codes for reason for uncertainty in correspondence.*
15	26	12		NEDS-CODE	NEDS point identification for boiler.
15	16	2	XX	STATE-NO	State code.
17	20	4	XXXX	COUNTY-NO	County code.
21	24	4	XXXX	PLANT-NO	Plant code.
25	26	2	XX	POINT-NO	Point code.
27	34	10		ACC-CODE	Source Classification Code.
27	27	1	X	I-CODE	Sub-field I.
28	29	2	XX	II-CODE	Sub-field II.
30	32	3	XXX	III-CODE	Sub-field III.
33	34	2	XX	IV-CODE	Sub-field IV.
35	37	3	XXX	AQCR-CODE	Air Quality Control Region Number.
38	38	1	X	OWNERSHIP	Code for type of ownership.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 1
NATIONAL AIR DATA BRANCH	**CHAPTER** File Description	**DATE** 3/11/76		**PAGE** 16
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** AEROS **QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB*AERO-FPC-NED.	**RECORD NAME/DESCRIPTION** LOOKUP-TABLE	
APPLICATION AE203	**DATE** January 31, 1975	**PAGE** 2 **OF** 2

RECORD POSITION		**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
FIRST	**LAST**				
39	42	4	XXXX	SIC-CODE	Standard Industrial Classification.
43	44	4	XX	UTM-ZONE	UTM zone.
45	54	10		UTM-COORDINATES	UTM coordinates.
45	49	5	9(5)	EASTING	UTM easting x 10 (i.e. no decimal point)
50	54	5	9(5)	NORTHING	UTM northing x 10 (i.e. no decimal point)
55	55	1	X	EST-CODE	Code for Estimation Method (not used)

*See following page for list of codes and their explanations.

7.2.2.1 USERFILE

WARNING: NADB*NEDS-USER. CONTAINS CONFIDENTIAL DATA. EACH USER IS INDIVIDUALLY RESPONSIBLE FOR ASSURING THAT THESE DATA ARE NOT RELEASED OUTSIDE THE AGENCY.

AEROS FILE DESCRIPTION

QUALIFIER NADB	FILE NAME NEDS-USER	DATE June, 1975

FILE DESCRIPTION AND USE

This file contains emissions in tons/year of five criteria pollutants (particulate, SO_x, NO_x, HC, CO) from point- and area-source, including estimated and calculated emissions. The first record (key = all zeros) contains the file creation date. Each state is preceeded by a dummy record (key = all zeros except state code) for use in positioning the file. Contains stack parameters, UTM coordinaces and various other items of descriptive infromation about plants, points and source classification codes.

The file is used by NE001A to create a selected subfile and by numerous NEDS reporting programs.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ________

☒ ASCII COBOL
☐ SEQUENTIAL
☐ DIRECT
☒ INDEXED-SEQUENTIAL

☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ________

☐ OTHER
____

STORAGE MEDIUM
☒ DISK
☐ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ ________

FILE AVAILABILITY
☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ________

CATALOGED FILE DESCRIPTION
☒ NO
☐ YES: FILE NAME ________
PROC NAME ________

RECORDING MODE
☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN

RECORD SIZE
☒ FIXED LENGTH: 552 CHARACTERS
☐ VARIABLE LENGTH: ____ THRU ____ CHARACTERS

BLOCKING
☐ UNBLOCKED
☒ BLOCKED: 6 ☐ CHARACTERS ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)
23 CHARACTERS LONG
CONTENT: State (2), County (4), AQCR* (3), Plant (4), Point (2), SCC (8).

*Point-source records contain "[illegible]" in this field.

FILE CREATION AND MAINTENANCE
FILE CREATED OR UPDATED BY: NE028 (PROGRAM NAME)
FILE SIZE: 151 Positions AS OF 5 June 1975
UPDATE FREQUENCY: 1 month (TIME INTERVAL)
ANTICIPATED GROWTH: 5% ☒ RECORD ☐ TRACKS PER Year

FILE BACKUP
TYPE: ☒ NONE MEDIUM: ☐ CARDS LOCATED AT: ________

AEROS FILE DESCRIPTION (Continued)
NEDS-USER
COMMENTS

There is one "dummy" point ('P') record at the beginning of each state sequence on file and one at the end of the file. Its record key is '99000 000000000000000000' where the 99 is replaced by the state code. The first record for each county within a state is an area source; it can be followed by any number of point source records. This sequence is repeated for each state until a dummy record with a state number of 99 is reached; this record indicates the end of file.

The first record in the file and for each state is a dummy record and contains the date of creation. This record beginsin position 36. The remaining positions of the identification file contains zeros allowing the user thru the COBOL 'start' command, by later programs, to access the first record and the following records for any state. The last record on NEDS-USER is a dummy point record that contains 99 for the state identification.

AREA RECORDS

KEY IS:	STATE	2 CHARACTERS	State Code
	COUNTY	4 CHARACTERS	County Code
	AQCR	3 CHARACTERS	AQCR Code
	PLANT	4 CHARACTERS	Contains Zeros
	POINT	2 CHARACTERS	Contains Zeros
	SCC	8 CHARACTERS	Contains Zeros

POINT RECORDS

KEY IS:	STATE	2 CHARACTERS	State Code
	COUNTY	4 CHARACTERS	County Code
	AQCR	3 CHARACTERS	Contains 9's
	PLANT	4 CHARACTERS	Plant Code
	POINT	2 CHARACTERS	Point Code
	SCC	8 CHARCTERS	SCC Code

EXAMPLE:

KEY	PLANT-NAME-ADDR
0100000-0000	Date File Was Created
0200000-0000	Date File Was Created

NEDS-USER FILE — AREA RECORD

APPLICATION NEDS

DATE

PAGE 1 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	8	8	x(8)	NUA-FILLER	Unused
9	9	1	X	NUA-KEY-IND	Indicates area record
10	11	2	9(2)	NUA-KEY-ST	State code
12	15	4	9(4)	NUA-KEY-CNTY	County code
16	18	3	9(3)	NUA-KEY-AQCR	AQCR number
19	32	14	X(14)	NUA-KEY-FILLER	spaces
33	33	1	9	NUA-NXT-REC	next record code
34	36	3	9(3)	NUA-AQCR	AQCR number
37	38	2	9(2)	NUA-YEAR	Year of record
39	43	5	9(5)	NUA-EST-EMIS-PART	Emission Estimate for particulates (10^2 tons)
4	48	5	9(5)	NUA-EST-MIS-SO	Emission Estimate for SO_2 (10^2 tons)
49	52	4	9(4)	NUA-EST-EMIS-NO	Emission Estimate for NO_x (10^2 tons)
53	57	5	9(5)	NUA-EST-EMIS-HC	Emission Estimate for HC (10^2 tons)
58	62	5	9(5)	NUA-EST-EMIS-CO	Emission Estimate for CO (10^2 tons)
63	64	2	9V9	NUA-SC-ANT	sulfur content for anthracite coal (%)
65	66	2	9V9	NUA-SC-BIT	sulfur content for bituminous coal (%)
67	68	2	9V9	NUA-SC-DO	sulfur content for distillate oil (%)
69	70	2	9V9	NUA-SC-RO	sulfur content for residual oil (%)
71	73	3	9(2)V9	NUA-AC-ANT	ash content for anthracite coal (%)
74	76	3	9(2)V9	NUA-AC-BIT	ash content for bituminous coal (%)

Environmental Protection Agency	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 2
National Air Data Branch	**CHAPTER** File Descriptions	**DATE** 3/11/76		**PAGE** 4
Volume III AEROS Summary and Retrieval Mannual	**SUBJECT** NEDS			

NAME/DESCRIPTION NEDS-USER FILE		RECORD NAME/DESCRIPTION AREA.RECORD (continued)
APPLICATION NEDS	DATE -	PAGE 2 OF 11

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
77	80	4	9(4)	NUA-RES-FUEL-ANT	residential fuel - anthracite coal.(10^1 tons) ??
81	85	5	9(5)	NUA-RES-FUEL-BIT	residential fuel - bituminous coal (10^1 tons)
86	90	5	9(5)	NUA-RES-FUEL-DO	residential fuel - distillate oil (10^4 gallons)
91	95	5	9(5)	NUA-RES-FUEL-RO	residential fuel - residual oil (10^4 gallons)
96	100	5	9(5)	NUA-RES-FUEL-GAS	residential fuel - natural gas (10^7 cu. ft.)
101	104	4	9(4)	NUA-RES-FUEL-WD	residential fuel - wood (10^2 tons)
105	109	5	9(5)	NUA-C-I-ANTH	commercial and institutional fuel - anthracite coal (10^1 tons)
110	114	5	9(5)	NUA-C-I-BIT	commercial and institutional fuel - bituminous coal (10^1 tons)
115	119	5	9(5)	NUA-C-I-DIST	commercial and institutional fuel - distillate oil (10^4 gallons)
120	124	5	9(5)	NUA-C-I-RESID	commercial and institutional fuel - residual oil (10^4 gallons)
125	128	4	9(4)	NUA-C-I-GAS	commercial and institutional fuel - natural ga (10^7 feet)
129	130	2	9(2)	NUA-C-I-WD	commercial and institutional fuel - wood (10^2 tons)

NEDS-USER FILE		AREA RECORD (continued)
APPLICATION NEDS	DATE	PAGE 3 OF 11

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
131	136	6	9(6)	NUA-INDUS-FUEL-ANT	industrial fuel - anthracite coal (10^1 tons)
137	142	6	9(6)	NUA-INDUS-FUEL-BIT	industrial fuel - bituminous coal (10^1 tons)
143	146	4	9(4)	NUA-INDUS-FUEL-COKE	industrial fuel - coke (10^1 tons)
147	151	5	9(5)	NUA-INDUS-FUEL-DIST	industrial fuel - distillate oil (10^4 gallons)
152	156	5	9(5)	NUA-INDUS-FUEL-RES	industrial fuel - residual oil (10^4 gallons)
157	161	5	9(5)	NUA-INDUS-FUEL-NG	industiral fuel - natural gas (10^7 ft.^{3})
162	164	3	9(3)	NUA-INDUS-FUEL-WOOD	industrial fuel - wood (10^2 tons)
165	168	4	9(4)	NUA-INDUS-FUEL-GAS	industrial fuel - process gas (10^7 ft.^{3})
169	174	6	9(6)	NUA-RESIDENTIAL-OCI	residential on site incineration (10^1 tons)
175	179	5	9(5)	NUA-INDUS-OCI	industrial on site incineration (10^2 tons)
180	183	4	9(4)	NUA-C-I-OCI	commercial and institutional on site incineration (10^2 tons)
184	189	6	9(6)	NUA-RESIDENTIAL-OB	residential open burning (10^2 tons)
190	195	6	9(6)	NUA-INDUS-OB	industrial open burning (10^2 tons)
196	201	6	9(6)	NUA-C-I-OB	commercial and institutional open burning (10^2 tons)
202	208	7	9(7)	NU-GAS-FUEL-LT-VEH	gasoline fuel - light vehicle (10^3 gallons)

NEDS-USER FILE

AREA RECORD (continued)

APPLICATION	DATE	PAGE
NEDS		4 OF 11

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
209	213	5	9(5)	NUA-FUEL-HV-VEH	gasoline fuel-heavy vehicle (10^3 gallons)
214	218	5	9(5)	NUA-GAS-FUEL-OH	gasoline fuel-off highway (10^3 gallons)
219	223	5	9(5)	NUA-D-FUEL-HV	diesel fuel-heavy vehicle (10^3 gallons)
224	226	3	9(3)	NUA-D-FUEL-OH	diesel fuel-off highway (10^4 gallons)
227	231	5	9(5)	NUA-D-FUEL-RAIL	diesel oil - railroad locomotive (10^4 gallons)
232	235	4	9(4)	NUA-CNTY-POP	county population (10^3)
236	236	1	9	NUA-DENSITY-CD	density code
237	240	4	9(4)	NUA-MIL-AIRC	military aircraft-LTO cycles (10^2)
241	245	5	9(5)	NUA-CIV-AIRC	civil aircraft-LTO cycles (10^1)
246	250	5	9(5)	NUA-COMM-AIRC	commercial aircraft-LTO cycle (10^1)
251	254	4	9(4)	NUA-VES-FUEL-ANT	vessels-anthracite coal (10^1 tons)
255	258	4	9(4)	NUA-VES-FUEL-DIES	vessels-diesel oil (10^4 gallons)
259	263	5	9(5)	NUA-VES-FUEL-RESID	vessels-residual oil (10^4 gallons)
264	267	4	9(4)	NUA-VES-FUEL-GAS	vessels-gasoline (10^3 gallons)
268	273	6	9(6)	NUA-EVAP-SOLVENT	evaporation-solvent purchase (tons/year)
274	278	5	9(5)	NUA-EVAP-GAS	evaporation-gasoline markets (10^5 gallons)
279	284	6	9(6)	NUA-VEH-MI-LAR	measured vehicle miles-limited access rds.(10^4m

NEDS-USER FILE | AREA RECORD (continued)

APPLICATION NEDS | DATE | PAGE 5 OF 11

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
285	290	6	9(6)	NUA-VEH-MI-RUR-RD	measured vehicle miles-rural roads (10^4 miles)
291	296	6	9(6)	NUA-VEH-MI-SUR-RD	measured vehicle miles-suburban roads (10^4 mile
297	303	7	9(7)	NUA-VEH-MI-URBAN-RD	measured vehicle miles-urban roads (10^4 miles)
304	310	7	9(7)	NUA-DIRT-ROADS	dirt roads traveled (10^3 miles)
311	315	5	9(5)	NUA-LTO-DIRT	dirt air strips - LTO cycle
316	320	5	9(5)	NUA-CONST-AREA	construction land area (10^3 acres)
321	325	5	9(5)	NUA-ROCK-H-S	rock handling and storing (10^3 tons)
326	332	7	9(7)	NUA-FOR-FIRES-AREA	forest fires area (acre
333	335	3	9(3)	NUA-FF-QU	forest fires quantity (tons/acre)
336	341	6	9(6)	NUA-SLASH-BRN-AREA	slash burning area (acr
342	344	3	9(3)	NUA-SB-SQ	slash burning quantity (tons/acres)
345	348	4	9(4)	NUA-ORCH-HTR	frost control-orchard heaters (10^2)
349	351	3	9(2)V9	NUA-DA-FIR	frost control-days fire (days/year)
352	355	4	9(4)	NUA-STRUCT-FIR	structure fires (#/year
356	361	6	9(6)	NUA-COAL-REF-BRN	coal refuse burning-size of bank (10^2 yard^3
362	364	4	9(4)	NUA-CRB-PD-YR	coal refuse burning - (#/year)
365	432	67	x(67)	NUA-COMMENTS	area source comments
433	442	10	9(7)V9(3)	NUA-PARTICULATE-EMIS	particulate emissions (tons/year)

FILE NAME/DESCRIPTION
NEDS-USER FILE

RECORD NAME/DESCRIPTION
AREA RECORD (continued)

APPLICATION
NEDS

DATE

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RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
443	452	10	9(7)V9(3)	NUA-SO-EMIS	SO_2 emissions (tons/year
453	452	10	9(7)V9(3)	NUA-NO-EMIS	NO_x emissions (tons/year
463	472	10	9(7)V9(3)	NUA-HC-EMIS	HC emissions (tons/year)
473	482	10	9(7)V9(3)	NUA-CO-EMIS	CO emissions (tons/year)
483	552	70	X(70)	NUA-RESERVED	reserved for up to seven additional pollutants

NEDS-USER FILE	POINT RECORD
APPLICATION NEDS	DATE

PAGE 7 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	8	8	X(8)	NUP-FILLER	Unused
9		1	X	NUP-KEY-IND	defines point record
10	11	2	9(2)	NUP-KEY-ST	state code
12	15	4	9(4)	NUP-KEY-CNTY	county code
16	18	3	X(3)	NUP-KEY-AQCR	9's filler
19	22	4	9(4)	NUP-KEY-PLANT	plant identification #
23	24	2	9(2)	NUP-KEY-POINT	point identification #
25	32	8	9(8)	NUP-KEY-SCC	source classification #
33	33	1	9	NUP-NXT-REC	next record code
34	36	3	9(3)	NUP-AQCR	AQCR number
37	38	2	9(2)	NUP-YEAR	year of record
[illegible]	42	4	9(4)	NUP-CITY	city code
3	44	2	9(2)	NUP-UTM-Z	utm zone
45	84	40	X(40)	NUP-NAME-ADDR	establishment name and address
85	96	12	X(12)	NUP-PERSONAL-CONT	personal contact
97		1	X	NUP-OWNER-C	ownership code
98	99	2	9(2)	NUP-YROFREC-1	year of record
100	103	4	9(4)	NUP-SIC-CODE	standard industrial classification code
104	105	2	9(2)	NUP-IPP-PR	IPP process code
106	109	4	9(3)V9	NUP-UTM-X	horizontal utm coordinat (km)
110	114	5	9(4)V9	NUP-UTM-Y	vertical utm coordinate (km)
115	118	4	9(4)	NUP-STACK-HT	stack height (ft)
119	121	3	9(2)V9	NUP-ST-D	stack diameter (ft)
122	125	4	9(4)	NUP-STACK-T	stack temperature (^{o}F)
126	132	7	9(7)	NUP-FLOW-RATE	flow rate (ft^3/min.)
133	136	4	9(4)	NUP-PLUME-HT	plume height
137	138	2	9(2)	NUP-MB-1	first multiple boiler code

FILE NAME/DESCRIPTION NEDS-USER FILE		RECORD NAME/DESCRIPTION POINT RECORD
APPLICATION NEDS	DATE -	PAGE 8 OF 11

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
139	140	2	9(2)	NUP-MB-2	last multiple boiler code
141	142	2	9(2)	NUP-YROFREC-2	year of record
143	147	5	9(5)	NUP-BOIL-DES-CAP	boiler design capacity (10^6 BTU/hr)
148	150	3	9(3)	NUP-C-E-PART-1	primary control equipment particulates
151	153	3	9(3)	NUP-C-E-PART-2	secondary control equip ment particulates
154	156	3	9(3)	NUP-C-E-SO-1	primary control equipment SO_2
57	159	3	9(3)	NUP-C-E-SO-2	secondary control equip ment SO_2
160	162	3	9(3)	NUP-C-E-NO-1	primary control equipment NO_x
163	165	3	9(3)	NUP-C-E-NO-2	secondary control equipment NO_x
166	168	3	9(3)	NUP-C-E-HC-1	primary control equipment HC
169	171	3	9(3)	NUP-C-E-HC-2	secondary control equipment HC
172	174	3	9(3)	NUP-C-E-CO-1	primary control equipment CO
175	177	3	9(3)	NUP-C-E-CO-2	secondary control equipment CO
178	180	3	9(2)V9	NUP-ECE-PART	estimated control efficiency particulate (%)
81	183	3	9(2)V9	NUP-ECE-SO	estimated control efficiency SO_2(%)
184	186	3	9(2)V9	NUP-ECE-NO	estimated control efficiency NO_x (%)

FILE NAME/DESCRIPTION
-DS-USER FILE

RECORD NAME/DESCRIPTION
POINT RECORD

APPLICATION
NEDS

DATE

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RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
187	189	3	9(2)V9	NUP-ECE-HC	estimated control efficiency HC (%)
190	192	3	9(2)V9	NUP-ECE-CO	estimated control efficiency CO (%)
193	194	2	9(2)	NUP-YR	year of record
195	196	2	9(2)	NUP-PERC-WIN	% annual thruput (Dec-Feb)
197	198	2	9(2)	NUP-PERC-SPG	%annual thruput (Mar - May)
199	200	2	9(2)	NUP-PERC-SUM	%annual thruput (June - Aug)
1	202	2	9(2)	NUP-PERC-FAL	%annual thruput (Sept - Nov)
203	204	2	9(2)	NUP-NO-HR-DA	normal operating hours per day
205	205	1	9	NUP-NO-HR-WK	normal operating hours per week
206	207	2	9(2)	NUP-NO-HR-YR	normal operating per year
208	214	7	9(7)	NUP-EMIS-EST-PART	estimated emissions-particulates (tons/year
215	221	7	9(7)	NUP-EMIS-EST-SO	estimated emissions-SO_2 (tons/year)
222	228	7	9(7)	NUP-EMIS-EST-NO	estimated emissions-NO_x (tons/year)
229	235	7	9(7)	NUP-EMIS-EST-HC	estimated emissions-HC (tons/year)
236	242	7	9(7)	NUP-EMIS-EST-CO	estimated emissions-CO (tons/year)
243	243	1	9	NUP-EST-METH-PAR	estimation method-Particulate

NEDS-USER FILE POINT RECORD

APPLICATION NEDS DATE PAGE 10 OF 11

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
244	244	1	9	NUP-EST-METH-SO	estimation method-SO
245	245	1	9	NUP-EST-METH-NO	estimation method-NO
246	246	1	9	NUP-EST-METH-HC	estimation method HC
247	247	1	9	NUP-EST-METH-CO	estimation method CO
248	250	3	9(2)V9	NUP-PERC-S-HEAT	% space heat
251	252	2	9(2)	NUP-YROFREC-2	year of record
253	259	7	9(7)	NUP-ALLOW-EMIS-PART	allowable emissions-particulates (tons/y
260	266	7	9(7)	NUP-ALLOW-EMIS-SO	allowable emissions- (tons/year)
267	273	7	9(7)	NUP-ALLOW-EMIS-NO	allowable emissions- (tons/year)
274	280	7	9(7)	NUP-ALLOW-EMIS-HC	allowable emissions- (tons/year)
281	287	7	9(7)	NUP-ALLOW-EMIS-CO	allowable emissions- (tons/year)
288	288	1	9	NUP-COMPL-STATUS	compliance status
289	290	2	9(2)	NUP-COMPL-SCH-YR	compliance schedule-
291	292	2	9(2)	NUP-COMPL-SCH-MO	compliance schedule-
293	294	2	9(2)	NUP-COMPL-SCH-YR	compliance status up - year
295	296	2	9(2)	NUP-STAT-UP-MO	compliance status up - month
297	298	2	9(2)	NUP-C-STAT-UP-DA	compliance status update - day
299	299	1	9	NUP-ECAP-STAT	emergency control act program status
300	303	4	X(4)	NUP-REG-1	control regulation #1
304	307	4	X(4)	NUP-REG-2	control regulation #2
308	311	4	X(4)	NUP-REG-3	control regulation #3
312	313	2	9(2)	NUP-YROFREC-3	year of record

FILE NAME/DESCRIPTION NEDS-USER-FILE	RECORD NAME/DESCRIPTION POINT RECORD
APPLICATION NEDS	DATE
PAGE 11 OF 11	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
314	320	7	9(7)	NUP-OPER-RATE	fuel, process, solid waste operating rate
321	327	7	9(4)V9(3)	NUP-MAX-D-RATE	maximum design rate
328	330	3	9V9(2)	NUP-PERC-SUL-CONT	% sulfur content
331	333	3	9(2)V9	NUP-PERC-ASH-CONT	% ash content
334	338	5	9(5)	NUP-HEAT-CONT	heat content (10^6 btu)
339	358	20	X(20)	NUP-COMMENTS	comments
359	359	1	X	NUP-SOURCE-CO	source code
360	360	1	9	NUP-CONFIDENTIAL	confidentiality of data
361	432	72	X(72)	FILLER	spaces
433	442	10	9(7)V9(3)	NUP-PAR-EMIS	particulate emissions (tons/year)
443	452	10	9(7)V9(3)	NUP-SO-EMIS	SO_2 emissions (tons/yr)
453	462	10	9(7)V9(3)	NUP-NO-EMIS	NO_x emissions (tons/yr)
463	472	10	9(7)V9(3)	NUP-HC-EMIS	HC emissions (tons/year)
483	552	70	X(70)	NUP-RESERVED	reserved for up to seven additional pollutants

NAME/DESCRIPTION NEDS-USER FILE	RECORD NAME/DESCRIPTION POINT DATE RECORD	
PLICATION NEDS	DATE October 1975	PAGE 1 OF 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	8	8	X(8)	NUPD-FILLER	Unused
9	9	1	X	NUPD-KEY-IND	defines point record
10	11	2	9(2)	NUPD-KEY-ST	state code
12	15	4	9(4)	NUPD-KEY-CNTY	county code
16	18	3	X(3)	NUPD-KEY-AQCR	9's filler
19	22	4	9(4)	NUPD-KEY-PLANT	plant identification
23	24	2	9(2)	NUPD-KEY-POINT	point identification
25	32	8	9(8)	NUPD-KEY-SCC	source classification
33	33	1	9	NUPD-NXT-REC	next record code
34	36	3	9(3)	NUPD-AQCR	AQCR number
37	38	2	9(2)	NUPD-YEAR	year of record
39	42	4	9(4)	NUPD-CITY	city code
43	44	2	9(2)	NUPD-UTM-Z	utm zone
45	84	40	X(40)	NUPD-DATE	Date of Creation: DAY, MONTH DAY, YEAR Example: Friday, October 24,197
85	552	467	X(467)	FILLER	NOT USED

7.2.2.2 NEDS-SUBFILE

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
Not Applicable	NEDS-SUBFILE	June, 1975

FILE DESCRIPTION AND USE

This is a temporary tape subfile containing area-source and/or point-source records selected from the NEDS-USER file by program NE001A and sorted by NE001B. Preceeding the data records are two header records and one or more select records which describe the selection/sort parameters.

The file is for use by NEDS reporting programs.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ______
☒ ASCII COBOL
☒ SEQUENTIAL
☐ DIRECT
☐ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ______
☐ OTHER

STORAGE MEDIUM

☐ DISK
☒ TAPE { ☐ LABELED / ☒ UNLABELED }
☐ CARDS
☐ ______

FILE AVAILABILITY

☐ RESTRICTED
☐ PERMANENT
☒ TEMPORARY
☐ ______

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB*NADP-DESC
PROC NAME SUBFILENEDS

RECORDING MODE

☒ INTERNAL
☐ COMPACT
☐ CFH
☐ F ☐ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

☒ FIXED LENGTH: 552 CHARACTERS
☐ VARIABLE LENGTH: ______ THRU ______ CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 6 ☐ CHARACTERS / ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

23 CHARACTERS LONG
CONTENT: STATE/COUNTY/AQCR*/PLANT/POINT/-SCC

*Point source records contain [illegible] in this field.

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NE001A and NE001B (PROGRAM NAME)
FILE SIZE: Depends on selection AS OF ______
UPDATE FREQUENCY: Re-created each time NE001 is run (TIME INTERVAL)
ANTICIPATED GROWTH: ______ ☐ RECORD ☐ TRACKS PER ______

FILE BACKUP

TYPE: ☒ NONE
☐ SYSTEM
☐ SPECIAL
MEDIUM: ☐ CARDS
☐ TAPE
☐ DISK
LOCATED AT: ______
FILE NAME: ______
RETENTION: ______
NUMBER OF GENERATIONS KEPT: ______

ILE NAME/DESCRIPTION .EDS-SUBFILE

RECORD NAME/DESCRIPTION HEADER-REC1

ATION First record in file; contains control-card parameters

DATE June, 1975

PAGE 1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	1	1	9(1)	REC-CODE	Code = 1 for header records.
2	8	7	9(7)	REC-NUMBER	Contains 1 for this record (used in sorting the file)
9	9	1	X(1)	FILL-H	Contains "H" for header records
10	10	1	9(1)	POLLUTANT-CODE	Identifies pollutant selected: 0 = all, 1 = Part., 2 = SO_x, 3 = NO_x, 4 = HC, 5 = CO
11	11	1	S9(1)	MIN-VAL-SWITCH	Emission level selectic code: -1 = missing valu 0 = all values, +1 = values ≧ MINIMUM-VALUE
	17	6	9(6)	MINIMUM-VALUE	Minimum annual emissior selected (if MIN-VAL-SWITCH = 1)
18	18	1	9(1)	UNIT-SYSTEM	Unit system selected: 1 = Metric, 2 = Englis
19	19	1	9(1)	SIGNIFICANT-DIGITS	Number of significant digits specified (default = 3)
20	20	1	9(1)	CONFIDENTIALITY	Confidentiality code for selected data
21	21	1	9(1)	SOURCE-TYPE	Type of emission sourc selected: "A" = area, "P" = point, "B" = bot
22	49	28	X(28)	NEDS-USER-DATE	Contains file creation date of NEDS-USER (Day of Week Month Day. Year.)
50	77	28	X(28)	NEDS-SUBFILE-DATE	Contains file creation date of NEDS-SUBFILE ([illegible] Year.)

NAME/DESCRIPTION DS-SUBFILE

RECORD NAME/DESCRIPTION HEADER-REC1 (continued)

APPLICATION First record of file; contains control-card parameters

DATE June, 1975

PAGE 2 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
78	209	132	X(132)	REPORT-HEADER-LINE	Line of text for pa header
210	341	132	X(132)	REPORT-HEADER-DATE	Line of text to sh file creation dates
342	552	214	X(211)	FILLER	Not used

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NEDS-SUBFILE	HEADER-REC2

PPLICATION	DATE	PAGE
Second record in file ontains text describing control card parameters	June, 1975	1 OF 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	1	1	9(1)	REC-CODE	Code = 1 header recor
2	8	7	9(7)	REC-NUMBER	Contains 2 for this record (used in sorti the file)
9	9	1	X(1)	FILL-H	Contains "H" for heac records
10	141	132	X(132)	CONTROL-PARM-LINE1	Two lines of text suitable for use by reporting programs which describe the co trol card parameters used in selection of data.
142	273	132	X(132)	CONTROL-PARM-LINE2	
274	405	132	X(132)	SORT-LIST-LINE1	Two lines of text sui able for use by repor ing programs which de scribe the sort sequence of the subfi
06	537	132	X(132)	SORT-LIST-LINE2	
538	552	15	X(15)	FILLER	Not used

LE [illegible]/DESCRIPTION NE[illegible]-SUBFILE	RECORD NAME/DESCRIPTION SELECT-REC	
PLICATION One record per select rd, describes parameters; llows HEADER-REC2 in file	DATE June, 1975	PAGE 1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	1	1	9(1)	REC-CODE	Code = 2 for select record
2	8	7	9(7)	REC-NUMBER	Contains select card number
9	9	1	X(1)	FILL-S	Contains "S"
10	11	2	X(2)	STATE-CODE	2-digit state code; spaces = all states, 'NA' = nationwide
12	15	4	X(4)	COUNTY-CODE	4-digit county-code; spaces = all counties
16	18	3	X(3)	AQCR-CODE	3-digit AQCR number; spaces = all AQCRs
19	22	4	X(4)	PLANT-CODE	4-digit plant code; spaces = all plants
2[illegible]	24	8	X(8)	POINT-CODE	2-digit point code; spaces = all points
25	32	8	X(8)	SCC-CODE	8-digit SCC code, four subfields; for any subfield spaces = all values selected
25	25	1	X(1)	SCC1-CODE	
26	27	2	X(2)	SCC2-CODE	
28	30	3	X(3)	SCC3-CODE	
31	32	2	X(2)	SCC4-CODE	
33	33	1	X(1)	OWNERSHIP-CODE	1-character ownership code; spaces = all codes selected
34	37	4	X(4)	SIC-CODE	4-digit SIC code; spaces = all SICs selected
38	38	1	X(1)	ESTIMATION-CODE	1-digit estimation method code; space = all codes selected
39	66	28	X(28)	STATE-NAME	Name of state selected or "ALL STATES" or "NATIONWIDE SELECTION"
67	94	28	X(28)	COUNTY-NAME	Name of county selected or "ALL COUNTIES"
9[illegible]	149	55	X(55)	AQCR-NAME	Name of AQCR selected or "ALL AQCRS"

FILE NAME/DESCRIPTION NEDS-SUBFILE	RECORD NAME/DESCRIPTION SELECT-REC (Continued)
APPLICATION	DATE June, 1975
PAGE 2 OF 2	

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
150	281	132	X(132)	SELECT-PARM-LINE1	Three lines of text which describe the parameters specified on the select card.
282	413	132	X(132)	SELECT-PARM-LINE2	
414	545	132	X(132)	SELECT-PARM-LINE3	
546	552	7	9(7)	REC-COUNT	Number of records selected by the selec card described by thi record.

NEDS-SUBFILE | POINT-REC

CATION Same format as NEDS-USER records | DATE June, 1975 | PAGE 1 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	552	552		POINT-REC	
1	1	1	9(1)	REC-CODE	Code = 3 for data recor
2	8	7	X(7)	FILL-P	Not used
9	9	1	X(1)	RECORD-TYPE	Contains 'P'
10	11	2	X(2)	STATE	2-digit state code
12	15	4	X(4)	COUNTY	4-digit county code
16	18	3	X(3)	FILLER	Contains '999'
19	22	4	X(4)	PLANT	4-digit plant code
23	24	2	X(2)	POINTT	2-digit point code
25	32	8		SCC.	8-digit SCC code
25	25	1	X(1)	SCC1	Four subfields
26	27	2	X(2)	SCC2	
28	30	3	X(3)	SCC3	
31	32	2	X(2)	SCC4	
33	33	1	X(1)	FILLER	Not used
34	36	3	X(3)	AQCR	3-digit AQCR number
37	38	2	X(2)	YEAR-OF-RECORD-PLANT	2-digit year-date plant info last updated
39	42	4	X(4)	CITY	4-digit city code
43	44	2	X(2)	UTM-ZONE	2-digit UTM zone
45	84	40	X(40)	PLANT-NAME-ADDR	Plant name and address
85	96	12	X(12)	PLANT-CONTACT	Person responsible f filling out NEDS for
97	97	1	X(1)	OWNERSHIP	Code designating type o ownership of plant
98	99	2	X(2)	YEAR-OF-RECORD-POINT	2-digit year -date [illegible] info last updated
100	103	4	X(4)	SIC	4-digit SIC code
104	105	2	X(2)	IPP	2-digit IPP code
105	109	4	9(3)V9	UTM-EASTING	UTM x-coord (kil
110	114	5	9(4)V9	UTM-NORTHING	UTM y-coord (kilomet
115	118	4	9(4)	STACK-HEIGHT	In feet
119	121	3	9(2)V9	STACK-DIAMETER	In feet

FILE NAME/DESCRIPTION NEDS-SUBFILE

RECORD NAME/DESCRIPTION POINT-REC (continued)

APPLICATION NEDS

DATE June, 1975

PAGE 2 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
122	125	4	9(4)	STACK-TEMPERATURE	Stack temperature in degrees F.
126	132	7	9(7)	FLOW-RATE	In cubic feet per minut
133	136	4	9(4)	PLUME-HEIGHT	In feet
137	138	2	X(2)	MULT-BOILER-FIRST	First and last point codes which feed common stack
139	140	2	X(2)	MULT-BOILER-LAST	
141	142	2	X(2)	YR-OF-RECORD-CONTROL	Year control info last updated
143	147	5	9(5)	BOILER-DESIGN-CAP	Mega-BTU per hour
148	177	30		CONTROL EQUIPMENT	3-digit codes for prim and secondary control equipment for particula SO_2, NO_x, HC and CO.
148	150	3	9(3)	PRIMARY-PART	
151	153	3	9(3)	SECONDARY-PART	
154	156	3	9(3)	PRIMARY-SOX	
157	159	3	9(3)	SECONDARY-SOX	
160	162	3	9(3)	PRIMARY-NOX	
163	165	3	9(3)	SECONDARY-NOX	
166	168	3	9(3)	PRIMARY-HC	
169	171	3	9(3)	SECONDARY-HC	
172	174	3	9(3)	PRIMARY-CO	
175	177	3	9(3)	SECONDARY-CO	
148	177	30		CONTROL-EQUIP-RDEF	Redefines Control-Equipment
		6	occurs 5	CONTROL-EQUIP	
		3	9(3)	PRI-CONTROL-EQUIP	
		3	9(3)	SEC-CONTROL-EQUIP	
178	192	15	99V9	CONTROL-EFFICIENCY	Estimated efficiency o control equipment (per-cent)
178	180	3	99V9	PART	
181	183	3	99V9	SOX	
[illegible]	[illegible]	3	99V9	NOX	
[illegible]	[illegible]	3	99V9	HC	
190	192	3	99V9	CO	

EDS-SUBFILE POINT-REC (continued)

APPLICATION NEDS	DATE June, 1975	PAGE 3 OF 5

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
178	192	15		CONTROL-EFFIC-RDEF	Redefines Control-Efficiency
			99V9 occurs 5	CONTROL-EFFIC	
193	194	2	X(2)	YEAR-OF-RECORD-PRODUCTIO	Year production info last updated
195	202	8		PERCENT-ANNUAL-THRUPUT	Percent of annual production which occurs i each of four "quarters
195	196	2	9(2)	WINTER	
197	198	2	9(2)	SPRING	
199	200	2	9(2)	SUMMER	
201	202	2	9(2)	FALL	
5	202	8		PERC-ANNUAL-THRU	Redefines Percent-Annu Thruput
			9(2) occurs 4	PERCENT-THRUPUT	
203	207	5	9(5)	OPERATING-SCHEDULE	Operating rate for th plant/point
203	204	2	9(2)	HOURS-PER-DAY	99 for missing value
205	205	1	9(1)	DAYS-PER-WEEK	9 for missing value
206	207	2	9(2)	WEEKS-PER-YEAR	99 for missing value
208	242	35	9(7)	ESTIMATED-POINT-EMISSIONS	Estimated emissions each pollutant in ton year
208	214	7	9(7)	PART	
215	221	7	9(7)	SOX	
222	228	7	9(7)	NOX	
229	235	7	9(7)	HC	
236	242	7	9(7)	CO	
208	242	35		EST-POINT-EMISSIONS	Redefines Estimated-Point-Emissions
			9(7) occurs 5	EST-POINT-EMIS	
[illegible]	[illegible]	5		[illegible]	[illegible] estimated [illegible] codes 0 thru 7 curre assigned

NEDS-SUBFILE POINT-REC (continued)

APPLICATION NEDS DATE June, 1975 PAGE 4 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
243	243	1	X(1)	PART	
244	244	1	X(1)	SOX	
245	245	1	X(1)	NOX	
246	246	1	X(1)	HC	
247	247	1	X(1)	CO	
243	247	5		ESTIMATION-METH	Redefines Estimation-Method
			X(1) occurs 5	ESTIM-METHOD	
248	250	3	99V9	PERCENT-SPACE-HEAT	
251	252	2	X(2)	YEAR-OF-RECORD-REGULATORY	Year regulatory info last updated
53	287	35	9(7)	ALLOWABLE-EMISSIONS	Maximum allowable emis of each pollutant
253	259	7	9(7)	PART	
260	266	7	9(7)	SOX	
267	273	7	9(7)	NOX	
274	280	7	9(7)	HC	
281	287	7	9(7)	CO	
253	287	35		ALLOWABLE-EMISSION-RDEF	Redefines Allowable Emissions
			9(7) occurs 5	ALLOWABLE-EMIS	
288	288	1	X(1)	COMPLIANCE-STATUS	Code for compliance
289	292	4	X(4)	COMPLIANCE-DATE	Date for plant to be compliance
289	290	2	X(2)	COMPLIANCE-YEAR	
291	292	2	X(2)	COMPLIANCE-MONTH	
293	298	6	X(6)	DATE-OF-RECORD-COMPLIANCE	Date compliance info updated
293	294	2	X(2)	COMPLIANCE-UPDATE-YEAR	
295	296	2	X(2)	COMPLIANCE-UPDATE-MONTH	
297	[illegible]	2	[illegible]	[illegible] DAY	
299	299	1	X(1)	EMERGENCY-CONTROL-STATUS	Code for status of emergency control [illegible]

FILE NAME/DESCRIPTION NEDS-SUBFILE

RECORD NAME/DESCRIPTION POINT-REC (continued)

APPLICATION NEDS

DATE June, 1975

PAGE 5 OF 5

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
300	311	12	X(4)	CONTROL-REGULATIONS	Anything can be entered
300	303	4	X(4)	REG1	
304	307	4	X(4)	REG2	
308	311	4	X(4)	REG3	
312	313	2	X(2)	YEAR-OF-RECORD-EMISSIONS	Year emissions info last updated
314	320	7	9(7)	OPERATING-RATE	In SCC-units per year
321	327	7	9999V999	MAXIMUM-DESIGN-RATE	In SCC-Units per hour
328	330	3	9V99	SULFUR-CONTENT	In percent
331	333	3	99V9	ASH-CONTENT	In percent
334	338	5	9(5)	HEAT-CONTENT	In mega-BTU per SCC-unit
339	358	20	X(20)	CARD6-COMMENT	
359	359	1	X(1)	SOURCE-CODE	B = boiler, P = process O = other, S = solid wa
360	360	1	X(1)	CONFIDENTIALITY-CODE	Code for confidentialit of data in this record.
361	396	36	X(54) Display-1	PLANT-COMMENT	Plant and Point comment from card 7.
397	433	36	X(54) Display-1	POINT-COMMENT	
433	482	50		COMPUTED-POINT-EMISSIONS	Computed emissions in tons/year of five crite pollutants
433	442	10	9(7)V9(3)	PART	
443	452	10	9(7)V9(3)	SOX	
453	462	10	9(7)V9(3)	NOX	
463	472	10	9(7)V9(3)	HC	
473	482	10	9(7)V9(3)	CO	
133	482	50		COMPUTED-EMIS-RDEF	Redefines Computed-Poi Emissions
			9(7)V9(3) occurs 5	COMPUTED EMISSIONS	
483	518	36	X(54) Display-1	SCC-COMMENT	SCC comments from car
[illegible]	552	34	X(51)	FILLER	Not used

NEDS-SUBFILE | AREA-REC

APPLICATION: NEDS | DATE: June, 1975 | PAGE 1 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	552	552		AREA-RECORD	
1	1	1	9(1)	REC-CODE	Code = 3 for data rec
2	8	7	X(7)	FILL-A	Not used
9	9	1	X(1)	RECORD-TYPE	Contains 'A' for area-source records
10	11	2	X(2)	STATE	2-digit state code
12	15	4	X(4)	COUNTY	4-digit county code
16	18	3	X(3)	FILLER	Contains AQCR code
19	33	15	X(15)	FILLER	Not used
34	36	3	X(3)	AQCR	3-digit AQCR code
37	38	2	X(2)	YEAR-OF-RECORD-AREA	Year when data last u dated
39	62	24	9(24)	ESTIMATED-AREA-EMISSIONS	Estimated emissions of 5 pollutants in 1 tons/year
39	43	5	9(5)	PART	
44	48	5	9(5)	SOX	
49	52	4	9(4)	NOX	
53	57	5	9(5)	HC	
58	62	5	9(5)	CO	
63	70	8		FUEL-SULFUR-CONTENT	% sulfur content of anthracite and bitumi coal, diesel oil and residual oil
63	64	2	9V9	ANTHRACITE-COAL	
65	66	2	9V9	BITUMINOUS-COAL	
67	68	2	9V9	DIESEL-OIL	
69	70	2	9V9	RESIDUAL-OIL	
71	76	6		FUEL-ASH-CONTENT	%ash content of anthracite and bitumi coal
71	73	3	99V9	ANTHRACITE-COAL	
74	76	3	99V9	BITUMINOUS-COAL	
77	[illegible]	28		RESIDENTIAL-FUEL	Residential fuel used (per year)
81	85	5	9(5)	BITUMINOUS-COAL	bitum, co [illegible]

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NEDS-SUBFILE	AREA-REC (continued)

APPLICATION	DATE	
NEDS	June, 1975	PAGE 2 OF 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
86	90	5	9(5)	DISTILLATE-COAL	distillate oil (10^4 gallons)
91	95	5	9(5)	RESIDUAL-OIL	residual-oil (10^4 gallons)
96	100	5	9(5)	NATURAL GAS	natural gas (10^7 cu.ft
101	104	4	9(4)	WOOD	wood (10^2 tons)
105	130	26		COMMERICAL-INSTITUTIONAL-FUEL	Commerical/Institution fuel used (per year)
105	109	5	9(5)	ANTHRACITE-COAL	anthracite coal (10 t
110	114	5	9(5)	BITUMINOUS-COAL	bituminous coal (10 t
115	119	5	9(5)	DISTILLATE-OIL	dist. oil (10^4 gallon
120	124	5	9(5)	RESIDUAL-OIL	resid. oil (10^4 gallo
125	128	4	9(4)	NATURAL-GAS	nat. gas (10^7 cu. ft.
129	130	2	9(2)	WOOD	wood (10^2 tons)
131	168	38		INDUSTRIAL-FUEL	Industrial fuel used (per year)
131	136	6	9(6)	ANTHRACITE-COAL	anthracite coal (10 t
137	142	6	9(6)	BITUMINOUS-COAL	bitum. coal (10 tons)
143	146	4	9(4)	COKE	coke (10 tons)
147	151	5	9(5)	DISTILLATE-OIL	dist. oil (10^4 gallon
152	156	5	9(5)	RESIDUAL-OIL	resid. oil(10^4 gallon
157	161	5	9(5)	NATURAL-GAS	nat. gas (10^7 cu. ft.
162	164	3	9(3)	WOOD	wood (10^{2}tons)
165	168	4	9(4)	PROCESS-GAS	process gas (10^{7}cu. f
169	183	15	9(15)	ONSITE-INCINERATION	fuel used to inciner
169	174	6	9(6)	RESIDENTIAL	residential (10 tons
175	179	5	9(5)	INDUSTRIAL	industrial (10 tons
180	183	4	9(4)	COMMERICAL-INSTITUTIONAL	commerical/instituti (100 tons)
184	201	18	9(18)	OPEN-BURNING	Fuel use due to open burning (100 tons/ye
184	189	6	9(6)	RESIDENTIAL	residential
190	195	6	9(6)	INDUSTRIAL	industrial
196	201	6	9(6)	COMMERICAL-INSTITUTIONAL	commerical/instituti
202	218	17		VEHICULAR-FUEL-GASOLINE	Fuel used by vehicle (per year)
202	208	7	9(7)	LIGHT-VEHICLES	light vehicle gas (10^3 gal.)

FILE NAME/DESCRIPTION NEDS-SUBFILE	RECORD NAME/DESCRIPTION AREA-REC (continued)

APPLICATION NEDS	DATE June, 1975	PAGE 3 OF 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
209	213	5	9(5)	HEAVY VEHICLES	heavy vehicle gasol (10^3 gal.)
214	218	5	9(5)	OFF-HIGHWAY	off-highway gasoline (10^3 gal.)
219	231	13		VEHICULAR-FUEL-DIESEL	
219	223	5	9(5)	HEAVY VEHICLES	heavy vehicle diesel (10^3 gal.)
224	226	3	9(3)	OFF-HIGHWAY	off higway diesel (10^4 gal.)
227	231	5	9(5)	RAILWAY-LOCOMOTIVES	railway locomotive die (10^4 gal.)
232	235	4	9(4)	COUNTY-POPULATION	10^3 persons
236	236	1	9(1)	URBAN-POPULATION-CODE	0 = <10% urban 1 = 10-19%urban, etc.
237	250	14		AIRCRAFT-LTO-CYCLES	landing-takeoff-cycles of aircraft
237	240	4	9(4)	MILITARY	military aircraft (10^2 LTO)
241	245	5	9(5)	CIVILIAN	civilian aircraft (10 LTO)
246	250	5	9(5)	COMMERICAL	commerical aircraft
251	267	17	9(17)	VESSELS	fuel used by water vessels (per year)
251	254	4	9(4)	ANTHRACITE-COAL	anthracite coal (10 [illegible]
255	258	4	9(4)	DIESEL-OIL	diesel fuel (10[illegible] gal.)
259	263	5	9(5)	RESIDUAL-OIL	residual fuel (10[illegible] gal.
264	267	4	9(4)	GASOLINE	gasoline (10^3 gal.)
268	278	11		EVAPORATION	evaporated fuel
268	273	6	9(6)	SOLVENT-PURCHSED	tons per year
274	278	5	9(5)	GASOLINE-MARKETED	10^5 gallons per year
279	303	25	9(25)	MEASURED-VEHICLE-MILES	10^4 miles/year
279	284	6	9(6)	LIMITED ACCESS	limited access roads
285	290	6	9(6)	RURAL	rural roads
291	296	6	9(6)	SURBURBAN	surburan roads
297	303	7	9(7)	URBAN	urban roads
304	364	61	9(61)	MISCELLANEOUS	

NAME/DESCRIPTION NEDS-SUBFILE	RECORD NAME/DESCRIPTION AREA-REC (continued)

APPLICATION NEDS	DATE June, 1975	PAGE 4 OF 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
304	310	7	9(7)	DIRT-ROAD-TRAVEL	10^3 miles/year
311	315	5	9(5)	DIRT-AIRFIELD-LTO	LTO cycles/year
316	320	5	9(5)	CONSTRUCTION	10^3 acres/year under construction
321	325	5	9(5)	ROCK-HANDLING	10^3 tons/year rock handled and stored
326	332	7	9(7)	FOREST-FIRES-AREA	acres burned/year
333	335	3	9(3)	FOREST-FIRES-QUAN	tons material/acre
336	341	6	9(6)	SLASH-BURNING-AREA	acres burned/year
342	344	3	9(3)	SLASH BURNING-QUAN	tons material/acre
345	348	4	9(4)	FROST-CONROL-HEATERS	number of operating orchard heaters (10^2)
349	351	3	9(3)	FROST-CONTROL-DAYS	days/year heaters were fired
352	355	4	9(4)	STRUCTURAL-FIRES	number fires/year
356	361	6	9(6)	COAL-REF-BURN-VOL	total volume of buring coal banks (10^2 cu. yds
362	364	3	9(3)	COAL-REF-BURN-NUM	total number of burning fires/year
365	432	68	X(68)	AREA-COMMENTS	Area-source comments
433	482	50		COMPUTED-AREA-EMISSIONS	calculated area-source emissions of 5 pollutan in tons per year
433	442	10	9(7)V9(2	PART	
443	452	10	9(7)V9(2	SOX	
453	462	10	9(7)V9(2	NOX	
463	472	10	9(7)V9(2	HC	
473	482	10	9(7)V9(2	CO	
433	482	50		COMPUTED-EMIS-RDEF	redefines Computed Area-Emissions
			9(7)V9(2) occurs 5	COMPUTED-EMISSIONS	
483	552	70	X(70)	FILLER	Not used

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Description	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 2
NATIONAL AIR DATA BRANCH	**SUBJECT** NEDS **QUALIFIER** NADB	**DATE** 3/11/76		**PAGE** 30
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**FILE NAME** NEDS-SOT-MST			

7.2.2.3 NEDS-SOT-MST

FILE DESCRIPTION AND USE

This file is the SOTDAT master file. Each record includes all source test information coded on one SOTDAT Input Form. Site identification data, point number and SCC code, run information, stack height, plant capacity, run rate, fuel type and quality, fuel rate, flow rate, pressure, temperature, velocity, percentages of excess air, isokinetic, water, CO_2, CO, Oxygen, and Nitrogen, pollutant test data and results, device parameters, and comments are included.

USE: To generate reports using program NE256.

FILE TYPE

☐ SDF
- ☐ PRINT FILE
- ☐ PUNCH FILE
- ☐ ______

☒ ASCII COBOL
- ☒ SEQUENTIAL
- ☐ DIRECT
- ☐ INDEXED - SEQUENTIAL

☐ FORTRAN
- ☐ FORMATTED
- ☐ UNFORMATTED
- ☐ ______

☐ OTHER ______

CATALOGUED FILE DESCRIPTION

☐ YES: FILE NAME ______

☒ NO PROC NAME ______

BLOCKING

☒ BLOCKED: 3 ☐ CHARACTERS ☒ RECORDS PER BLOCK

☐ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 2867 CHARACTERS

☐ VARIABLE LENGTH: ______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE)

35 CHARACTERS LONG

CONTENT: SOURCEM/MONTH/DAY1/YEAR
RUNCNT

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ______

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ______

STORAGE MEDIUM

☒ DISK
☐ TAPE ☐ LABELED ☐ UNLABELED
☐ CARDS
☐ ______

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: Updated by NE059 (PROGRAM NAME)

FILE SIZE: 455 Tracks AS OF 1 December 1975.

UPDATE FREQUENCY: Irregular (TIME INTERVAL)

ANTICIPATED GROWTH: 1 ☒ RECORD ☐ TRACKS ☐ ______ PER Source test

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: ______

FILE NAME: NADB*NEDS-SOT-BKP

FREQUENCY: Each Update Time thru NE059

NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION
SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST

RECORD NAME/DESCRIPTION
MASTER

APPLICATION
SOTDAT

DATE
1 DEC 75

PAGE 1 OF 4

RECORD POSITION			DATA ITEM		
FIRST	LAST	LENGTH	PICTURE	DATA ITEM NAME	DESCRIPTION
1	6	6	X(6)	FORM	Form Number
7	21	15		SOURCEM	Source Identification
7	8	2	XX	STATE	State
9	12	4	XXXX	COUNTY	County
13	15	3	XXX	AQCR	AQCR
16	19	4	XXXX	PLANT	Plant
20	21	2	XX	TPOINT	Point
22	23	2	XX	MONTH	Month
24	25	2	XX	DAY1	Day
26	27	2	XX	YEAR	Year
28	29	2	XX	RUNCNT	Run Count
30	37	8		SCC	Source Classification
30	30	1	X	SCC1	Code X-
31	32	2	XX	SCC2	XX-
33	35	3	XXX	SCC3	XXX-
36	37	2	XX	SCC4	XX
38	38	1	X	REASON	Reason Tested
39	39	1	X	TESTBY	Test By
40	41	2	XX	RUNNOM	Run No.
42	48	7	X(7)	PLCAPT	Plant Capacity
49	55	7	X(7)	RNRATE	Run Rate
56	56	1	X	FTYPE	Fuel Type
57	61	5	X(5)	SULFUR	% Sulfur

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 2
NATIONAL AIR DATA BRANCH	**CHAPTER** File Description **SUBJECT** NEDS	**DATE** 3/11/76		**PAGE** 32
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST	**RECORD NAME/DESCRIPTION** MASTER

APPLICATION SOTDAT	**DATE** 1 DEC 75	**PAGE** 2 **OF** 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
62	66	5	X(5)	ASH	% Ash
67	71	5	X(5)	NITRO	% Nitrogen
72	72	1	X	HUNITS	Heat Units
73	79	7	X(7)	HVALUE	Heat Value
80	80	1	9	GSCOND	Gas Rate Reported
81	88	8	X(8)	FLRATE	Flow Rate
89	94	6	X(6)	XSECT	Cross Section
95	98	4	X(4)	GSTEMP	Gas Temp
99	103	5	X(5)	GSPRES	Gas Pressure
104	105	2	XX	TRVPTS	Traverse Points
106	111	6	X(6)	GMOLWT	Estimated Gas Molecular Weight
112	116	5	X(5)	EXSAIR	Percent Excess Air
117	121	5	X(5)	ISOKIN	Percent Isokinetic
122	126	5	X(5)	WATER	% Water in Gas
127	131	5	X(5)	CO$_2$	% CO$_2$ in Gas
132	136	5	X(5)	CO$_1$	% CO in Gas
137	141	5	X(5)	OXYGEN	% Oxygen in Gas
142	146	5	X(5)	NITREN	% Nitrogen in Gas
147	151	5	X(5)	SPCDAT	Special Data
152	155	4	X(4)	STKHT	Stack Height
156	159	4	X(4)	STKVEL	Average Stack Velocity
160	160	1	X	SMPLOC	Sampling Location

FILE NAME/DESCRIPTION SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST	**RECORD NAME/DESCRIPTION** MASTER

APPLICATION SOTDAT	**DATE** 1 DEC 75	**PAGE** 3 **OF** 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
161	164	4	X(4)	TENTH1	Particulate Size .1 % by Weight
165	168	4	X(4)	TENTH5	.5 % by Weight
169	172	4	X(4)	ONEP	1 % by Weight
173	176	4	X(4)	TWOP	2 % by Weight
177	180	4	X(4)	FIVEP	5 % by Weight
181	184	4	X(4)	TENP	10 % by Weight
185	188	4	X(4)	TWENTP	20 % by Weight
189	192	4	X(4)	GRTWEN	GT 20 % by Weight
193	204	12	X(12)	PSIZER	Particle Sizer
205	223	19	X(19)	COMNTS	Comments
224	1375	24		PODATA Occurs 48 Times	Pollutant Data
		6	X(6)	POLLUT	Pollutant
		2	XX	TMETHD	Test Method
		1	9	POLUNT	Units
		5	X(5)	SMPMIN	Sample Time (Minutes)
		1	X	SMPPOS	Sampling Position
		6	X(6)	RESULT	Test Result
		3	XXX	POLTMP	Pollutant Temperature
1376	2075	140		CODATA Occurs 5 Times	Control Device Data
		3	XXX	DVCCOD	Device Code
		66		CONPOL6	6 CONPOL
		11		CONPOL Occurs 6 Times	Controlled Pollutants
		6	X(6)	POLNOM	Pollutant No.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION**	User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 2
NATIONAL AIR DATA BRANCH	**CHAPTER**	File Description	**DATE** 3/11/76	**PAGE** 34	
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT**	NEDS			
	QUALIFIER				
	FILE NAME				

FILE NAME/DESCRIPTION SOTSET ASSIGN TO MASS-STORAGE NEDS-SOT-MST	**RECORD NAME/DESCRIPTION** MASTER

APPLICATION SOTDAT	**DATE** 1 DEC 75	**PAGE** 4 **OF** 4

RECORD POSITION		**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
FIRST	**LAST**				
		1	X	FILLER	Not Used
		8	X(8)	DSNFLW	Design Flow Rate
		2	XX	INSTYR	Year Installed
		60		DVCPRM10	10 DVCPRM
		6	X(6)	DVCPRM Occurs 10 Times	Device Parameters
2076	2795	72	X(72)	CMMMMT Occurs 10 Times	Comments
2796	2867	72		NAMADD	Name, Address
2796	2867	1	X	NAMCHAR Occurs 72 Times	Character of NAMADD

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Description	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 2
NATIONAL AIR DATA BRANCH	**SUBJECT** NEDS	**DATE** 3/11/76		**PAGE** 35
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** NADB **FILE NAME** NEDS-SICNMS			

7.2.2.4 NEDS-SICNMS

FILE DESCRIPTION AND USE

This is a reference file containing the 4-character codes and 65-character names of Standard Industrial Classifications (SIC). It is used by NEDS programs to verify SIC codes and to obtain names of valid SIC codes.

FILE TYPE

☐ SDF
  ☐ PRINT FILE
  ☐ PUNCH FILE
  ☐ ____________
☒ ASCII COBOL
  ☐ SEQUENTIAL
  ☐ DIRECT
  ☒ INDEXED - SEQUENTIAL
☐ FORTRAN
  ☐ FORMATTED
  ☐ UNFORMATTED
  ☐ ____________
☐ OTHER ____________

CATALOGUED FILE DESCRIPTION

☒ YES: FILE NAME NADB*NADB-DESC
☐ NO PROC NAME NEDS-SICNMS

BLOCKING

☒ BLOCKED: 15 ☐ CHARACTERS ☒ RECORDS PER BLOCK
☐ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 69 CHARACTERS
☐ VARIABLE LENGTH: ______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE)

4 CHARACTERS LONG
CONTENT: SIC code

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ____________

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ____________

STORAGE MEDIUM

☒ DISK
☐ TAPE ☐ LABELED ☐ UNLABELED
☐ CARDS
☐ ____________

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NE063 (PROGRAM NAME)
FILE SIZE: 1496 records. 20 tracks AS OF 11/17/75
UPDATE FREQUENCY: When new SIC codes are added (TIME INTERVAL)
ANTICIPATED GROWTH: 1 ☒ RECORD ☐ TRACKS ☐ ________ PER SIC code

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL
MEDIUM: ☒ CARDS ☐ TAPE ☐ DISK
LOCATED AT: Mutual
FILE NAME: N.A.
FREQUENCY: N.A.
NUMBER OF GENERATIONS KEPT: 1

FILE NAME/DESCRIPTION NADB*NEDS-SICNMS	**RECORD NAME/DESCRIPTION** SIC-RECORD	
APPLICATION NEDS	**DATE** 11/17/75	**PAGE** 1 **OF** 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	4	4	X(4)	SIC-CODE	SIC code
5	69	65	X(65)	SIC-NAME	SIC name
		KEY:	X(4)	SIC-KEY	Same as SIC-CODE

7.2.3.1 RAWDATA

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-ND-TAPE	June 12, 1975

FILE DESCRIPTION AND USE

This is the SAROAD Master File of raw data. A 28-character 'key field', containing codes for state/area/site/agency/project/pollutant/method/interval/year/month/da/unit is followed by a variable number of 7-character data value fields. Each value field contains codes for the time when the value was sampled in addition to the value itself.

USE: To construct 'working' files such as the 'Summary' Files, the 'Standard' Files and 'Raw-Data' Files.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ____________
☒ ASCII COBOL
☒ SEQUENTIAL
☐ DIRECT
☐ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ____________
☐ OTHER
____
____
____

STORAGE MEDIUM

☐ DISK
☒ TAPE { ☒ LABELED / ☐ UNLABELED
☐ CARDS
☐ Standard

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ____________

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB*NADB-DESC
PROC NAME NADBNOWDATA

RECORDING MODE

☐ INTERNAL
☒ COMPACT
☐ CFH
☐ ____________
☐ F ☐ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

☐ FIXED LENGTH: ______ CHARACTERS
☒ VARIABLE LENGTH: 37 THRU 401 CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 3520 ☒ CHARACTERS / ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

28 CHARACTERS LONG
CONTENT: ST/AREA/SITE/AGCY/PROJECT/POLLUT /METHOD/INTERVAL/YR/MO/DA/UNIT

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA029 (PROGRAM NAME)
FILE SIZE: 48-millionvalues, 15 tapes AS OF 07-15-75
UPDATE FREQUENCY: Bi-weekly (TIME INTERVAL)
ANTICIPATED GROWTH: 3 Million ☐ RECORD ☐ TRACKS ☐ Values PER Qtr.

FILE BACKUP

TYPE: ☐ NONE
☐ SYSTEM
☒ SPECIAL
MEDIUM: ☐ CARDS
☒ TAPE
☐ DISK
LOCATED AT: EPA-RTP
FILE NAME: NADB-ND TAPE
FREQUENCY: Bi-weekly
NUMBER OF GENERATIONS KEPT: 4

Environmental Protection Agency	SECTION User Generated Retrievals	SECTION 7	CHAPTER 2	SUBJECT 3
National Air Data Branch	CHAPTER File Descriptions	DATE 3/11/76		PAGE 2
Volume III AEROS Summary and Retrieval Mannual	SUBJECT SAROAD			

FILE NAME/DESCRIPTION
NADB-ND-TAPE

RECORD NAME/DESCRIPTION
ND-REC

APPLICATION
SAROAD

DATE
14 July 1975

PAGE 1 OF 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	401	401max		ND-REC	Now Data record
1	28	28		ND-KEY	Record key
1	2	2	X(2)	ND-STATE	State
3	6	4	X(4)	ND-AREA	Area
7	9	3	X(3)	ND-SITE	Site
10	10	1	X	ND-AGY	Agency
11	12	2	X(2)	ND-PRJ	Project
13	17	5	X(5)	ND-POLL	Pollutant
18	19	2	X(2)	ND-METH	Method
	20	1	X	ND-INTVL	Interval
21	22	2	X(2)	ND-YR	Year
23	24	2	X(2)	ND-MON	SEE NOTE 4
23	24	2		ND-C	Redefines ND-MON
23	23	1	X	ND-C-INTVL	Composite interval (see NOTE 4)
24	24	1	X	ND-C-PER	Composite Period (see NOTE 4)
25	26	2	X(2)	ND-DAY	SEE NOTE 5
27	28	2	X(2)	ND-UNITS	Units'
29	29	1	X	ND-SUM	Not used
30	30	1	99 COMP	ND-VAL-CNT	Number of value fields
31	37	7	X(7)	ND-DATA	Occurs 1 to 53 times depending on ND-VAL-C
31	32	2	99	ND-PER	See note 1
	37	5	X(5)	ND-[illegible]	Contains [illegible] items per [illegible]

Environmental Protection Agency	SECTION User Generated Retrievals	SECTION 7	CHAPTER 2	SUBJECT 3
National Air Data Branch	CHAPTER File Descriptions	DATE 3/11/76		PAGE 3
Volume III AEROS Summary and Retrieval Mannual	SUBJECT SAROAD			

FILE NAME/DESCRIPTION NADB-ND-TAPE

RECORD NAME/DESCRIPTION ND-REC

APPLICATION SAROAD

DATE 14 July, 1975

PAGE 2 OF 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
33	36	4	X(4)	ND-VAL	See note 2
37	37	1	X(1)	ND-NBR-SMP	See note 3

NOTE 1: This field content varies with interval code:

a) < 24-hour - start hour
b) ≥ 24-hour - day of month
c) composite - number of the composited value (e.g., 01 thru 04 for quarterly compostes)

NOTE 2: This field contains the sampled value in floating-point format (COMP-1). It is stored in the file as X(4) to avoid word alignment problems, and must be moved to a field defined as X(4) which is redefined as COMP-1 before it can be used by a COBOL program.

OTE 3: This field's content varies with interval code:

a) < 24-hour - contains zero
b) ≥ 24-hour - contains start hour
c) composite - contains number of values composited.

This field contains a 2-digit integer (PIC 99 COMP). This field is stored as a X and must be moved to another field as a X which is redefined as 99 COMP before it can be used.

NOTE 4:

ND-INTVL	Contents of ND-MON
less than or equal to 24 HR, or MONTHLY	month code (01-12)
QUARTERLY	quarter code (01-04)
COMPOSITE	1st character - sampling interval of composited data 2nd character - period over which data was composited (1=quarterly, 2=seasonal, 3=monthly, 4=weekly, 5=annual)
WEEKLY	contains "00"

NOTE 5: ND-DAY

[illegible] day of month.

For all other intervals [illegible]

FILE NAME/DESCRIPTION R-ND-TAPE	RECORD NAME/DESCRIPTION ND-TAPE	
APPLICATION SAROAD	DATE 14 JULY 1975	PAGE 3 OF 3

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				

NOTES:

***'ND-PER' is a 2 byte character code which preceeds each value per reading giving: the hour of the day for hourly values, the day for daily values, the week for weekly values, the quarter for quarterly values, the month for monthly values, or "00" for yearly values. If the interval is hourly, each record contains 1 day (i.e., 24 hour value fields, maximum). If the interval is daily each record contains one month (i.e. 31 daily value field maximum). If the interval is weekly, monthly, quarterly, or yearly, then each record contains one year (a maximum of 53, 14, 4 or 1 value fields respectively; i.e., 53 weeks can start in a year; one month and 4 weeks are treated equivalent (365 days/28 days = 13 1/28 or 14 intervals).

7.2.3.2 NA235-SELECT

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
	NA235-SELECT	

FILE DESCRIPTION AND USE

File is a subfile of SAROAD Raw Data containing selected records meeting selection criteria.

USE: Used by program which has the capability of reading SAROAD raw data.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ______
☒ ASCII COBOL
☒ SEQUENTIAL
☐ DIRECT
☐ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ______
☐ OTHER ______

STORAGE MEDIUM

☐ DISK
☒ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ ______

FILE AVAILABILITY

☐ RESTRICTED
☐ PERMANENT
☒ TEMPORARY
☐ ______

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB*NADB-DESC
PROC NAME NADBMONDATA

RECORDING MODE

☐ INTERNAL ☐ F ☐ AN
☒ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ______

RECORD SIZE

☐ FIXED LENGTH: ______ CHARACTERS
☒ VARIABLE LENGTH: 37 THRU 401 CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 3520 ☒ CHARACTERS ☐ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

29 CHARACTERS LONG
CONTENT: State/Area/Agy/Proj/Polt/Meth/Intvl/ Yr/Mo/Da/Unit/Sum

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA235 (PROGRAM NAME)
FILE SIZE: Max Size: Same as NADB-ND-TAPE AS OF ______
UPDATE FREQUENCY: whenever NA235 is run (TIME INTERVAL)
ANTICIPATED GROWTH: ______ ☐ RECORD ☐ TRACKS ☐ ______ PER ______

FILE BACKUP

TYPE: ☒ NONE ☐ SYSTEM ☐ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT: ______
FILE NAME: NADB-ND-TAPE
FREQUENCY: Bi-Weekly
NUMBER OF GENERATIONS KEPT: 4

Can be re-created by re-running NA235.

/DESCRIPTION 4235-SELECT	RECORD NAME/DESCRIPTION SN-REC	
LOCATION SAROAD	DATE JULY, 1975	PAGE 2 OF 2

ORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
T	LAST				
1	401	401	X(401)	SN-REC	Selected Raw Data Record
	29	29	X(29)	SN-KEY	State Area Site Agency Project Pollutant Method Interval Year Month Day Units Sum
30	30	1	99-COMP	SN-VAL-CNT	Number of elements in variable portion of record
31	37	7	X(7)	SN-DATA	Reported data occurs 1 to 53 times depending on SN-VAL-CNT

NOTE: FOR A MORE DETAILED RECORD DESCRIPTION, SEE RECORD DESCRIPTION FOR NADB-ND-TAPE.

7.2.3.3 QUARTERLY SUMMARIES

AEROS FILE. DESCRIPTION

QUALIFIER NADB

FILE NAME NADB-QRSUM-D

DATE

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for 0 in constructing of statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of $\ln^2$, units reported NADB criteria met flag, arithmetic mean and standard deviation, ln mean and standard deviation, geometric mean and standard deviation and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations sencondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum value occurred (MO/DA/HR).

USE: Used for quarterly inventories, quarterly frequency and most quarterly reports.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ________

☒ ASCII COBOL
☒ SEQUENTIAL
☐ DIRECT
☐ INDEXED-SEQUENTIAL

☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ________

☐ OTHER

STORAGE MEDIUM

☒ DISK
☐ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
Standard

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ________

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADBDESC
PROC NAME QTRSUMFILE

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ________

RECORD SIZE

☒ FIXED LENGTH: 140 CHARACTERS
☐ VARIABLE LENGTH: ____ THRU ____ CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 36 ☐ CHARACTERS ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

24 CHARACTERS LONG
CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAB034 (NA050 tape to disk) (PROGRAM NAME)
FILE SIZE: 99 POS AS OF 9/4/75
UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)
ANTICIPATED GROWTH: 8000 ☒ RECORD ☐ TRACKS ☐ ____ PER Update

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☑ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT:
FILE NAME: NADB-QRSUM-T
FREQUENCY: BI-WEEKLY
[illegible]:

FILE NAME/DESCRIPTION
NADB-QRSUM-D

RECORD NAME/DESCRIPTION
QRSUMS-REC

APPLICATION
SAROAD

DATE

PAGE 1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	140	140		QTRSUMS-REC	Summary Record
1	24	24		QS-KEY	Access Key
1	22	22		QS-SUB-KEY	Primary portion of Key
1	2	2	X(2)	QS-STATE	State Code
3	6	4	X(4)	QS-AREA	Area Code
7	9	3	X(3)	QS-SITE	Site Code
10	10	1	X	QS-AGENCY	Agency
11	12	2	X(2)	QS-PROJECT	Project
13	17	5	X(5)	QS-POLUTCOD	Pollutant Code
18	19	2	X(2)	QS-METHOD	Source Method Code for Test
20	20	1	X	QS-INTVLCOD	Interval Code
21	22	2	9(2)	QS-YEAR	Last 2 digits of Year
23	24	2	9(2)	QS-QTR-IND	Indicator Code
25	28	4	Comp-1	QS-PERC-OBS	Percentage of Observatio
29	32	4	Comp-1	QS-ARIT-MEAN	Arithmetic Mean
33	36	4	Comp-1	QS-LN-MEAN	Log of Mean
37	40	4	Comp-1	QS-GEO-MEAN	Geometric Mean
41	44	4	Comp-1	QS-ARIT-STD-DEV	Arithmetic Standard Deviation
45	48	4	Comp-1	QS-LN-STD-DEV	Log of Standard Deviation
49	52	4	Comp-1	QS-GEO-STD-DEV	Geometric Standard Deviation
53	56	4	Comp-1	QS-2ND-MOM	Second Moment
57	60	4	Comp-1	QS-MAX-VAC	Maximum Value
61	64	4	Comp-1	QS-MED-VAL	Medium Value
65	68	4	Comp-1	QS-MIN-VAL	Minimum Value
69	72	4	Comp-1	QS-ZERO-SUB	Zero Sub
[illegible]	76	2	S9(4)	QS-[illegible]-OBS	Number of Observations
77	80	2	S9(4)	QS-SUBS-MADE	Number of Subs Made

FILE NAME/DESCRIPTION NADB-QRSUM-D

RECORD NAME/DESCRIPTION QRSUMS-REC

APPLICATION SAROAD (continued)

DATE

PAGE 2 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
81	84	4	Comp-1	QS-SUM-X	Sum X
85	88	4	Comp-1	QS-SUM-XX	Sum X^2
89	92	4	Comp-1	QS-SUM-LN-X	Sum Ln(X)
93	95	4	Comp-1	QS-SUM-LN-XX	Sum $[\mathrm{Ln}(X)]^2$
97	98	2	X(2)	S-UNIT	Reporting Units
99	99	1	9	QS-VAC-QTR-CNT	Number of Quarters
100	100	1	X	QS-CRIT	If valid contains '1'
101	144	44	X(44)	FILLER	Unused

IF QS-INTVLCOD IS EQUAL TO QUARTERLY

QS-QTR-IND CONTAINS QUARTER CODE (01-04)

OTHER USE:

1ST CHARACTER: SAMPLING INTERVAL OF COMPOSITED DATA

2ND CHARACTER: PERIOD OVER WHICH DATA WAS COMPOSITED (1 = Quarterly, 2 = Seasonal, 3 = monthly, 4 = weekly, 5 = annual) for composite.

DB-QRSUM-D

QRAVG-RECORD
(Record formats for intervals of Y and Z cn

APPLICATION	DATE	PAGE
SAROAD		1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see not 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations o the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations o the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last viola of the primary standar (See note 6)
87	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last viola of the secondary stand (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard units
95	95	1	SH9(1)	VALID-CTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag [illegible]
97	132	36	X(6) Display-1 [illegible] 9	HI-VAL-TIME	Time of occurence of t 9 highest [illegible]

Environmental Protection Agency	SECTION	User Generated Retrievals	SECTION 7	CHAPTER 2
National Air Data Branch	CHAPTER	File Descriptions	DATE 3/11/76	PAGE 11
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SUBJECT 3

ILE NAME/DESCRIPTION
ADB-QRSUM-D

RECORD NAME/DESCRIPTION
QRSAVG-RECORD
(Record formats for intervals Y and Z only)

PPLICATION
SAROAD

DATE

PAGE 2 OF 2

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
133	136	4	X(6) Display-1	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6
137	140	4	X(6) Display-1	MIN-VAL-TIME	Time of occurence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (01-12), quarter number (01-04), or 00 respectively.

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.0 is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.0.

NOTE 4. This item has the value -1.0 if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time of occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTRS contains zero and CRITERIA contains '1'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

ADB-QRSUM-T)

QRSUM-RECORD
(Record formats for intervals other than Y a
Z)

PPLICATION SAROAD

DATE

PAGE 1 OF 3

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observa reported (see note 2)
29	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values (see note 3)
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHM MEAN (see note 3)
37	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of rep ed values (see note 3
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation ab the arithmetic mean (see note 4)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-DEVIATION (see note 4
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation ab the geom. mean (see n 4)
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 4).
57	60	4	COMP-1	MAXIMUM	Maximum reported valu
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported valu
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values s er than the minimum d tectable value.
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB wa substituted for repor values
77	80	4	COMP-1	SUMX	Sum of reported value
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] ported values
85	88	4	COMP-1	SUMLX	Sum of natural logs o reported values

"DB-QRSUM-D

QRSUM -RECORD
(Record formats for intervals other than Y anc

LICATION	DATE	PAGE 2 OF 3
SAROAD		

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
IRST	LAST				
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reporte values
93	94	2	X(2)	UNITS	Code for units in whic values were reported (see note 5)
95	95	1	SH9(1)	VALID-QUARTERS	See note 6
96	96	1	X(1).	CRIT-FLAG	Criteria flag (see not
97	100	4	COMP-1	SECOND-MAXIMUM	Second highest reporte value
101	102	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero of no standard exists
103	104	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard ex
105	108	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hou when second maximum value was reported
109	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hou when maximum value was reported
113	140	28	X(28)	FILLER	Not used

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (01-12), quarter number (01-04) or 00, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour intervals (interval code [illegible]) and for [illegible] averages (interval code X) and a value of -1.0 is entered.

NOTE 3. This item has a value of -1.0 (undefined) if the sampling interval is less than 24 hours and % observations is not greater than 75.

FILE NAME/DESCRIPTION NADB-QRSUM-D	RECORD NAME/DESCRIPTION QRSUM-RECORD (Record formats for intervals other than Y an

APPLICATION SAROAD	DATE	PAGE 3 OF 3

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				

NOTE 4. This item has a value of -1.0 (undefined) if:
a) sampling interval is less than 24 hours and % observations is not greater than 75
b) sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 5. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 6. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria weremet regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 7. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

7.2.3.4 YEARLY SUMMARIES

AEROS FILE DESCRIPTION

QUALIFIER NADB | FILE NAME NADB-YRSUM-D | DATE

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for 0 in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of $\ln^2$, units reported NADB criteria met flag, arithmetic mean and standard deviation, and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations of secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum occurred (MO/DA/HR).

USE: Retrieval programs use this file with both interactive and batch access.

FILE TYPE
☐ SDF ☒ ASCII COBOL ☐ FORTRAN ☐ OTHER
☐ PRINT FILE ☒ SEQUENTIAL ☐ FORMATTED
☐ PUNCH FILE ☐ DIRECT ☐ UNFORMATTED
☐ ☐ INDEXED-SEQUENTIAL ☐

STORAGE MEDIUM
☒ DISK
☒ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE AVAILABILITY
☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐

CATALOGED FILE DESCRIPTION
☐ NO
☒ YES: FILE NAME NADB*NADB-DESC
PROC NAME NADBYRSUM

RECORDING MODE
☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN

RECORD SIZE
☒ FIXED LENGTH: 140 CHARACTERS
☐ VARIABLE LENGTH: ______ THRU ______ CHARACTERS

BLOCKING
☐ UNBLOCKED
☒ BLOCKED: 36 ☐ CHARACTERS ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)
24 CHARACTERS LONG
CONTENT: STATE, AREA, SITE, AGENCY, PROJECT, POLLUTANT, METHOD, INTERVAL, YEAR, YEAR INDICATOR

FILE CREATION AND MAINTENANCE
FILE CREATED OR UPDATED BY: NAC034 (NA050 tape to disk) (PROGRAM NAME)
FILE SIZE: 36 POS AS OF 9/4/75
UPDATE FREQUENCY: BI-WEEKLY (TIME INTERVAL)
ANTICIPATED GROWTH: 1600 ☒ RECORD ☐ TRACKS PER Update

FILE BACKUP
TYPE: ☒ NONE ☐ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT: EPA
FILE NAME: NADB*NADB-YRSUMS-T
FREQUENCY: BI-WEEKLY
NUMBER OF GENERATIONS KEPT: 4

NADB-YRSUMS-D | YRSUMS REC

CATION SAROAD | DATE OCTOBER 1975 | PAGE 1 OF 2

CORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
ST	LAST				
1	140	140	X(140)	YRSUMS-REC:	Data Record
1	96	96	X(96)	DATA-PART:	Data Portion
1	24	24	X(24)	YS-KEY:	YRSUM Key
1	22	22	X(22)	YS-SUB-KEY:	Sub Key
1	2	2	X(2)	YS-STATE	State
3	6	4	X(4)	YS-AREA	Area
7	9	3	X(3)	YS-SITE	Site
10	10	1	X	YS-AGENCY	Agency
11	12	2	X(2)	YS-PROJECT	Project
13	17	5	X(5)	YS-POLUTCOD	Pollutant
18	19	2	XX	YS-METHOD	Method
20	20	1	X	YS-INTVLCOD	Interval
21	22	2	XX	YS-YEAR	Year
23	24	2	XX	YS-YR-IND	Quarter
23	23	1	X	YS-YR-INT	Interval
24	24	1	X	YS-YR-PERIOD	Period
25	28	4	COMP-1	YS-PERC-OBS	& observations
29	32	4	COMP-1	YS-ARIT-MEAN	Arithmetic mean
33	36	4	COMP-1	YS-LN-MEAN	Natural logs
37	40	4	COMP-1	YS-GEO-MEAN	Geometric mean
41	44	4	COMP-1	YS-ARIT-STD-DEV	Arithmetic standar deviation
45	48	4	COMP-1	YS-LN-STD-DEV	Logs standard deviation
49	52	4	COMP-1	YS-GEO-STD-DEV	Geometric standar deviation
53	56	4	COMP-1	YS-2ND-MOM	Second moment
57	60	4	COMP-1	YS-MAX-VAL	Maximum value
61	64	4	COMP-1	YS-MED-VAL	Median value
65	68	4	COMP-1	YS-MIN-VAL	Minimum value
69	72	4	COMP-1	YS-ZERO-SUB	Zero substitution
73	74	2	S9(4(COMP	YS-NUMB-OBS	# observations

FILE NAME/DESCRIPTION NADR-YRSUMS-D	RECORD NAME/DESCRIPTION YRSUMS-REC

PPLICATION SAROAD	DATE August, 1975	PAGE 2 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
75	76	2	S9(4)COMP	YS-SUBS-MADE	# substitutions mad.
77	80	4	COMP-1	YS-SUM-X	Sum of values in QR
81	84	4	COMP-1	YS-SUM-XX	Sum of values in QR
85	88	4	COMP-1	YS-SUM-LN-X	Sum of logs
89	92	4	COMP-1	YS-SUM-LN-XX	Sum of logs squared
93	94	2	XX	YS-UNITS	Units reported
95	95	1	9	YS-VAL-QRT-CNT	# valid quarters
96	96	1	X	YS-CRIT	Criteria flag
97	140	44	X(44)	FILLER	Not used

'DB-YRSUM-T	YRAVG-RECORD (Record formats for intervals of Y and Z onl

PPLICATION SAROAD	DATE	PAGE 1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
5	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
9	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see note 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violat of the primary standard (See note 6)
37	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violat of the secondary standa (see note 6)
91	92	2	X(2)	FILLER	Not used
3	94	2	X(2)	UNITS-CODE	Code for standard units
[illegible]	95	1	SH9(1)	VALID-QTRS	See note 7
[illegible]	[illegible]	1	X(1)	[illegible]	[illegible]
7	132	36	X(6) Display-1 Occurs 9	HI-VAL-TIME	Time of occurence of the 9 highest [illegible]

ILE NAME/DESCRIPTION
NADB-YRSUM-T

RECORD NAME/DESCRIPTION
YRAVG-RECORD
(Record format for intervals of Y and Z only)

PPLICATION
SAROAD

DATE

PAGE 2 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
133	136	4	X(6) Display-1	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6
137	140	4	X(6) Display-1	MIN-VAL-TIME	Time of occurence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (01-12), quarter number (01-04), or 00 respectively.

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.0 is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.0.

NOTE 4. This item has the value -1.0 if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time if occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTRS contains zero and CRITERIA contains '1'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

FILE NAME/DESCRIPTION
NADB-YRSUM-D

RECORD NAME/DESCRIPTION
YRSUM-RECORD
(Record formats for intervals other than Y and

LOCATION
SAROAD

DATE

PAGE 1 OF 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
5	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observatic reported (see note 2)
9	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values (see note 3)
3	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN (see note 3)
7	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values (see note 3)
1	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 4)
5	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-STD-DEVIATION (see note 4)
9	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 4)
3	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 4).
7	60	4	COMP-1	MAXIMUM	Maximum reported value
1	64	4	COMP-1	MEDIAN	Median reported value
5	68	4	COMP-1	MINIMUM	Minimum reported value
9	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value.
3	74	2	SH9(5)	OBSERVATIONS	# of reported values
5	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB was substituted for reported values
7	80	4	COMP-1	SUMX	Sum of reported values
1	84	4	COMP-1	SUMX2	Sum of squares of reported values
5	88	4	COMP-1	SUMLX	Sum of natural logs of reported values

FILE NAME/DESCRIPTION: DB-YRSUM-T)

RECORD NAME/DESCRIPTION: YRSUM -RECORD

APPLICATION: SAROAD

DATE:

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RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of report values
93	94	2	X(2)	UNITS	Code for units in whic values were reported (see note 5)
95	95	1	SH9(1)	VALID-QUARTERS	See note 6
96	96	1	X(1).	CRIT-FLAG	Criteria flag (see not
97	100	4	COMP-1	SECOND-MAXIMUM	Second highest reporte value
101	102	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero of no standard exists
103	104	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard ex
105	108	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hou when second maximum value was reported
109	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hou when maximum value was reported
113	140	28	X(28)	FILLER	Not used

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (01-12), quarter number (01-04) or 00, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour [illegible] code X) and a value of -1.0 is entered.

NOTE 3. This item has a value of -1.0 (undefined) if the sampling interval is less than 24 hours and % observations is not greater than 75.

FILE NAME/DESCRIPTION NADB-YRSUM-TD	RECORD NAME/DESCRIPTION YRSUM-REOCRD (Record formats for intervals other Y and	
APPLICATION SAROAD	DATE	PAGE 3 OF 3

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				

NOTE 4. This item has a value of -1.0 (undefined) if:

a) sampling interval is less than 24 hours and % observations is not greater than 75

b) sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 5. The reporting units code is taken from the last record used in constr ing monthly summary records and from the first record used in construc ing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 6. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria weremet regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 7. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

7.2.3.5 QUARTERLY FREQUENCIES

AEROS FILE DESCRIPTION

QUALIFIER NADB

FILE NAME NADB-QRFRQ-D

DATE 05-21-75

FILE DESCRIPTION AND USE

All Frequency Files

One record for each pollutant/site/time period. Key field contains state, area, site, agency, pollutant, method, interval, and date codes. Percentile value field contains value for the following percentiles: 10-16-20-30-40-50-60-70-80-84-90-95-96-97-98-99. A high values field has 1st, 2nd, and 3rd highest unique values. A high-count field has counts of the 1st, 2nd, and 3rd highest unique values. A field gives the reporting units and another field contains the number of observations. Note: There are no composite records on the frequency files (Interval Code of 'C').

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ______
☒ ASCII COBOL
☒ SEQUENTIAL
☐ DIRECT
☐ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ______
☐ OTHER

STORAGE MEDIUM

☒ DISK
☐ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ______

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB-DESC
PROC NAME NADBYRFRQ

RECORDING MODE

☒ INTERNAL
☐ COMPACT
☐ CFH
☐ F ☐ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

☒ FIXED LENGTH: 136 CHARACTERS
☐ VARIABLE LENGTH: ______ THRU ______ CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 32 ☐ CHARACTERS ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

24 CHARACTERS LONG
CONTENT: STATE, AREA, SITE, AGENCY, PROJECT, POLLUTANT, METHOD, INTERVAL, YEAR.

FILE CREATION AND MAINTENANCE

QTR INDICATOR
FILE CREATED OR UPDATED BY: NAD034 (NAD51 tape to disk) (PROGRAM NAME)
FILE SIZE: 71 POS. AS OF 9/4/75
UPDATE FREQUENCY: BI-WEEKLY (TIME INTERVAL)
ANTICIPATED GROWTH: 1700 ☒ RECORD ☐ TRACKS PER Update

FILE BACKUP

TYPE: ☐ NONE
☐ SYSTEM
☐ [illegible]
MEDIUM: ☐ CARDS
☒ TAPE
☐ [illegible]
LOCATED AT: ______
FILE NAME: NADB-QRFRQ-T
[illegible]
NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-QRFRQ-D	QRFREQ-REC

APPLICATION	DATE	PAGE 1 OF 2
SAROAD		

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	136	136		QR-FREQ-REC	Frequency record
1	114	114		DATA-PART	Data portion of record
1	24	24		QF-KEY	Key
1	22	22		QF-SUB-KEY	Main part of key
1	2	2	XX	QF-STATE	State code
3	6	4	X(4)	QF-AREA	Area code
7	9	3	XXX	QF-SITE	Site code
10	10	1	X	QF-AGENCY	Agency code
11	12	2	XX	QF-PROJECT	Project code
13	17	5	X(5)	QF-POLUTCOD	Pollutant code
18	19	2	XX	QF-METHOD	Method used for test
20	20	1	X	QF-INTVLCOD	Interval code
21	22	2	XX	QF-YEAR	Year
23	24	2	99	QF-YEAR-IND	Quarter Code
25	28	4	COMP-1	QF-10-PCT	10 Percentile
29	32	4	COMP-1	QF-16-PCT	16 Percentile
33	36	4	COMP-1	QF-20-PCT	20 Percentile
37	40	4	COMP-1	QF-30-PCT	30 Percentile
41	44	4	COMP-1	QF-40-PCT	40 Percentile
45	48	4	COMP-1	QF-50-PCT	50 Percentile
49	52	4	COMP-1	QF-60-PCT	60 Percentile
53	56	4	COMP-1	QF-70-PCT	70 Percentile
57	60	4	COMP-1	QF-80-PCT	80 Percentile
61	64	4	COMP-1	QF-84-PCT	84 Percentile
65	68	4	COMP-1	QF-90-PCT	90 Percentile
69	72	4	COMP-1	QF-95-PCT	95 Percentile
73	76	4	COMP-1	QF-96-PCT	96 Percentile
77	80	4	COMP-1	QF-97-PCT	97 Percentile
81	84	4	COMP-1	QF-98-PCT	98 Percentile
[illegible]	[illegible]	[illegible]	COMP-1	QF-99-PCT	99 Percentile

FILE NAME/DESCRIPTION
NADB-QRFRQ-0

RECORD NAME/DESCRIPTION
QRFREQ-REC

APPLICATION
SAROAD

DATE
-

PAGE 2 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
89	92	4	COMP-1	QF-1ST-HIVAL	1st high value
93	96	4	COMP-1	QF-2ND-HIVAL	2nd high value
97	100	4	COMP-1	QF-3RD-HIVAL	3rd high value
101	102	2	S9(4)	QF-1ST-HICNT	1st high count
103	104	2	S9(4)	QF-2ND-HICNT	2nd high count
105	106	2	S9(4)	QF-3RD-HICNT	3rd high count
107	108	2	XX	QF-UNITS	Reporting units
109	110	2	SH9(5)	QF-OBSERVATIONS	# Reported observations
111	136	26	X(26)	FILLER	Unused

7.2.3.6 YEARLY FREQUENCIES

AEROS FILE DESCRIPTION

QUALIFIER: NADB
FILE NAME: NADB-YRFRQ-D
DATE:

FILE DESCRIPTION AND USE ALL FREQUENCY FILES

One record for each pollutant/site/time period. Key field contains state, area, site, agency, pollutant, method, interval and date codes. Percentile value field contains values for the following percentiles: 10-16-20-30-40-50-60-70-80-84-90-95-96-97-98-99. A high-values field has 1st, 2nd, ahd 3rd highest unique values. A high count field has counts of the 1st, 2nd, and 3rd highest unique values. A field gives the reporting units and anotner field contains the number of observations.
Note: There are no composite records on the frequency files (Interval Code of 'C')
USE: Input to frequency distribution programs.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ____________
☒ ASCII COBOL
☒ SEQUENTIAL
☐ DIRECT
☐ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ____________
☐ OTHER ____________

STORAGE MEDIUM

☐ DISK
☒ TAPE { ☒ LABELED / ☐ UNLABELED
☐ CARDS
☐ ____________

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ____________

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB-DESC
PROC NAME NADBYRFRQ

RECORDING MODE

☒ INTERNAL
☐ COMPACT
☐ CFH
☐ F ☐ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

☒ FIXED LENGTH: 136 CHARACTERS
☐ VARIABLE LENGTH: ______ THRU ______ CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 32 ☐ CHARACTERS / ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

24 CHARACTERS LONG
CONTENT: STATE, AREA, SITE, AGENCY, PROJECT, POLUTANT, METHOD, INTERVAL, YEAR, YEAR INDICATOR

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NAE034 (NA051 tape to disk) (PROGRAM NAME)
FILE SIZE: 31 POS AS OF 9/4/75
UPDATE FREQUENCY: BI-WEEKLY (TIME INTERVAL)
ANTICIPATED GROWTH: 1400 ☒ RECORD / ☐ TRACKS PER Update

FILE BACKUP

TYPE: ☐ NONE
☐ SYSTEM
☒ SPECIAL
MEDIUM: ☐ CARDS
☒ TAPE
☐ DISK
LOCATED AT: EPA-RTP
FILE NAME: NADB-YRFRQ-T
FREQUENCY: BI-WEEKLY
NUMBER OF GENERATIONS KEPT: ____________

FILE NAME/DESCRIPTION	RECORD NAME/DESCRIPTION
NADB-YRFRQ-D	YRFREQ-REC

APPLICATION	DATE	
SAROAD		PAGE 1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	136	136		YRFREQ-REC	Frequency Record
1	114	114		DATA-PART	Data Portion of Record
1	24	24		YF-KEY	Key
1	22	22		YF-SUB-KEY	Main Part of Key
1	2	2	X(2)	YF-STATE	State Code
3	6	4	X(4)	YF-AREA	Area Code
7	9	3	X(3)	YF-SITE	Site Code
10	10	1	X	YF-AGENCY	Agency Code
11	12	2	X(2)	YF-PROJECT	Project Code
13	17	5	X(5)	YF-POLUTCOD	Polutant Code
18	19	2	X(2)	YF-METHOD	Method Used for Test
20	20	1	X	YF-INTVLCOD	Interval Code
21	22	2	X(2)	YF-YEAR	Year
23	24	2	9(2)	YF-YEAR-IND	Contains '00'
25	28	4	Comp-1	YF-10-PCT	10 Percentile
29	32	4	Comp-1	YF-16-PCT	16 Percentile
33	36	4	Comp-1	YF-20-PCT	20 Percentile
37	40	4	Comp-1	YF-30-PCT	30 Percentile
41	44	4	Comp-1	YF-40-PCT	40 Percentile
45	48	4	Comp-1	YF-50-PCT	50 Percentile
49	52	4	Comp-1	YF-60-PCT	60 Percentile
53	56	4	Comp-1	YF-70-PCT	70 Percentile
57	60	4	Comp-1	YF-80-PCT	80 Percentile
61	64	4	Comp-1	YF-84-PCT	84 Percentile
65	68	4	Comp-1	YF-90-PCT	90 Percentile
69	72	4	Comp-1	YF-95-PCT	95 Percentile
73	76	4	Comp-1	YF-96-PCT	96 Percentile
77	80	4	Comp-1	YF-97-PCT	97 Percentile
[illegible]	[illegible]	4	Comp-1	YF-98-PCT	98 Percentile
85	88	4	Comp-1	YF-99-PCT	99 Percentile

FILE NAME/DESCRIPTION NADB-YRFRQ-D	RECORD NAME/DESCRIPTION YRFREQ-REC

APPLICATION SAROAD (continued)	DATE	PAGE 2 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
89	92	4	Comp-1	YF-1ST-HIVAL	First High Value
93	96	4	Comp-1	YF-2ND-HIVAL	Second High Value
97	100	4	Comp-1	YF-3RD-HIVAL	Third High Value
101	102	4	Comp-1	YF-1ST HICNT	First High Count
103	104	4	Comp-1	YF-2ND-HICNT	Second High Count
105	106	4	Comp-1	YF-3RD-HICNT	Third High Count
107	108	2	X(2)	YF-UNITS	Reporting Units
109	110	2	SH9(5)	YF-OBSERVATIONS	#Reported Observations
111	136	26	X(26)	FILLER	Unused

7.2.3.7 SITEFILE

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-STE-INX	June 5, 1975

FILE DESCRIPTION AND USE Sampling Site Description data from SAROAD "Site Identification" forms. Contains codes for state, area, site, agency, project, AQCR, county, EPA-region and SMSA. Contains city name and population, county name, UTM and grid coordinates, latitutde and longitude, supporting agency, site address, station type, AQCR population, elevation above ground and mean sea level time zone and comments.

USES: Used in the interactive system.

FILE TYPE
☐ SDF ☒ ASCII COBOL ☐ FORTRAN ☐ OTHER
☐ PRINT FILE ☐ SEQUENTIAL ☐ FORMATTED
☐ PUNCH FILE ☐ DIRECT ☐ UNFORMATTED
☐ ☒ INDEXED-SEQUENTIAL ☐

STORAGE MEDIUM
☒ DISK
☐ TAPE ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE AVAILABILITY
☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐

CATALOGED FILE DESCRIPTION
☐ NO
☒ YES: FILE NAME NADB-DESC
PROC NAME NADBSITEISAM

RECORDING MODE
☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN

RECORD SIZE
☒ FIXED LENGTH: 421 CHARACTERS
☐ VARIABLE LENGTH: ____ THRU ____ CHARACTERS

BLOCKING
☐ UNBLOCKED
☒ BLOCKED: 9 ☐ CHARACTERS ☒ RECORDS PER BLOCK

KEY (IF APPLICABLE)
12 CHARACTERS LONG
CONTENT: STATE, AREA, SITE, AGENCY, PROJECT

FILE CREATION AND MAINTENANCE
FILE CREATED OR UPDATED BY: NA030B (PROGRAM NAME)
FILE SIZE: 12 POS AS OF 9/4/75
UPDATE FREQUENCY: As needed (TIME INTERVAL)
ANTICIPATED GROWTH: Minimal ☐ RECORD ☐ TRACKS PER ____

FILE BACKUP
TYPE: ☐ NONE ☒ SYSTEM MEDIUM: ☐ CARDS ☒ TAPE LOCATED AT: ____
FILE NAME: NADB-STE-T
[illegible] As Needed
NUMBER OF GENERATIONS KEPT: ____

FILE NAME/DESCRIPTION NADB-STE-INX

RECORD NAME/DESCRIPTION SITE-REC

APPLICATION SAROAD

DATE June 5, 1975

PAGE 1 OF 2

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	421	421		SITE-REC	Site record
1	1	1	X	FILLER	Unused
2	13	12		SR-KEY	Identification key
2	10	9		SR-CODE	Code
2	3	2	X(2)	SR-STATE	State Code
4	7	4	X(4)	SR-AREA	Area Code
8	10	3	X(3)	SR-SITE	Site Code
11	13	3		SR-AP	Agency/project
11	11	1	X	SR-AGENCY	Agency Code
12	13	2	X(2)	SR-PROJECT	Project Code
14	36	23	X(23)	SR-CITY-NAME	City Name
37	51	15	X(15)	SR-COUNTY-NAME	County Name
52	59	8	9(8)	SR-CITY-POPL	City Population
60	61	2	X(2)	SR-UTM-ZONE	UTM Zone
62	69	8	X(8)	SR-UTM-EAST	UTM Easting
70	76	7	X(7)	SR-UTM-NORTH	UTM Northing
77	84	8		SR-LONGITUDE	Longitude
77	77	1	X	SR-LON-DIR	Longitude Direction
78	80	3	X(3)	SR-LON-DEG	Longitude Degrees
81	82	2	X(2)	SR-LON-MIN	Longitude Minutes
83	84	2	X(2)	SR-LON-SEC	Longitude Seconds
85	91	7		SR-LATITUDE	Latitude
85	85	1	X	SR-LAT-DIR	Latitude Direction
86	87	2	X(2)	SR-LAT-DEG	Latitude Degrees
88	89	2	X(2)	SR-LAT-MIN	Latitude Minutes
90	91	2	X(2)	SR-LAT-SEC	Latitude Seconds
92	92	1	X	SR-REGION	Region
93	96	4	X(4)	SR-SMSA-NBR	SMSA Number
97	157	61	X(61)	SR-SUPP-AGCY	Supporting Agency
158	223	66	X(66)	SR-COMMENT-1	Comment
224	289	66	X(66)	SR-COMMENT-2	Comment

FILE NAME/DESCRIPTION 'NADB-STE-INX

RECORD NAME/DESCRIPTION SITE-REC

APPLICATION SAROAD (continued)

DATE June 5, 1975

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RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
290	314	25	X(25)	SR-ABV-ADDR	Site Abbreviation
315	355	41	X(41)	SR-ADDR	Site Address
356	357	2	X(2)	SR-STA-TYP	Station Type
338	361	4	X(4)	SR-CNTY-NBR	County Number
362	264	3	X(3)	SR-AQCR-NBR	AQCR Number
365	372	8	9(8)	SR-AQCR-POPL	AQCR Population
373	375	3	X(3)	SR-ELEV-ABOVE-G	Elevation Above Ground
376	379	4	X(4)	SR-ELEV-ABOVE-MSL	Elevation Above Sea Leve
380	381	2	X(2)	SR-TIME-ZONE	Time Zone of Sampling
382	421	40	X(40)	FILLER	Unused

7.2.3.8 PARAMETER FILE

AEROS FILE DESCRIPTION

QUALIFIER	FILE NAME	DATE
NADB	NADB-PARMFL	June 5, 1975

FILE DESCRIPTION AND USE Contains the monitored air pollutant and meteorlogical parameters their methods of collection and analysis and associated codes: name of parameter, name of collection method, name of analysis method, time-interval code, approximation to the minimum detectable value, reporting decimal point, standard units code, conversion factor for units.

USE: Input to all SAROAD reporting programs other than publication programs NA250, NA217, and NA218.

Is used for Summary and Frequency File Creation.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ______
☒ ASCII COBOL
☐ SEQUENTIAL
☐ DIRECT
☒ INDEXED-SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ______
☐ OTHER

STORAGE MEDIUM

☒ DISK
☐ TAPE { ☒ LABELED / ☐ UNLABELED }
☐ CARDS
☐ Standard

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ______

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADR-DESC
PROC NAME NADBPARAISM

RECORDING MODE

☒ INTERNAL
☐ COMPACT
☐ CFH
☐ F ☐ AN
☐ U ☐ AN
☐ V ☐ AN

RECORD SIZE

☒ FIXED LENGTH: 94 CHARACTERS
☐ VARIABLE LENGTH: ______ THRU ______ CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 30 { ☐ CHARACTERS / ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

10 CHARACTERS LONG
CONTENT: POLLUTANT, METHOD, UNITS AND INTERVAL

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA031B (PROGRAM NAME)
FILE SIZE: 1 POS AS OF 05/22/75
UPDATE FREQUENCY: As Needed (TIME INTERVAL)
ANTICIPATED GROWTH: Minimum ☐ RECORD ☐ TRACKS PER ______

FILE BACKUP

TYPE: ☐ NONE
[illegible]
☐ SPECIAL
MEDIUM: ☐ CARDS
[illegible]
☐ DISK
LOCATED AT: ______
FILE NAME: NADB-PARM-T
FREQUENCY: As Needed
NUMBER OF GENERATIONS KEPT: 2

FILE NAME/DESCRIPTION NADB-PARMFL	RECORD NAME/DESCRIPTION PARAMETER REC

APPLICATION SAROAD	DATE June 5, 1975	PAGE 1 OF 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	94	94		PARAMETER-REC	Record
1	10	10		IR-KEY	Identification key
1	5	5	X(5)	IR-POLT-COD	Pollutant Code
6	7	2	X(2)	IR-METH	Method
8	9	2	X(2)	IR-UNITS	Units
10	10	1	X	IR-INTVL	Interval
11	14	4	Comp-1	IR-CONV-FAC	Conversion Factor
15	18	4	Comp-1	IR-UR-MIN-DETC	Urban Minimum Detectable
19	22	4	Comp-1	IR-NU-MIN-DETC	Non-Urban Minimum Detectable
23	23	1	9	IR-UR-DP	Urban Decimal Point
24	24	1	9	IR-NU-DP	Non-Urban Decimal Po
25	26	2	X(2)	IR-STD-UTS	Standard Units
27	36	10	X(10)	IR-POL-NME-1	Pollutant Name Part 1
37	46	10	X(10)	IR-POL-NME-2	Pollutant Name Part 2
47	60	14	X(14)	IR-MET-COL	Method of Collection
61	94	34	X(34)	IR-MET-ANAL	Method Analysis

7.2.3.9 POLLUTANT FILE (Names of)

AEROS FILE DESCRIPTION

QUALIFIER: NADB

FILE NAME: NADB-POLTFL

DATE: June 5, 1975

FILE DESCRIPTION AND USE

File contains pollutant code and the name of the associated pollutant.

USES: Accessed by five-digit pollutant code. Is used by standard retrieval programs and in editing routines also by programs producing a listing.

FILE TYPE

☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ____

☒ ASCII COBOL
☐ SEQUENTIAL
☐ DIRECT
☒ INDEXED-SEQUENTIAL

☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ____

☐ OTHER ____

STORAGE MEDIUM

☒ DISK
☐ TAPE { ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ____

CATALOGED FILE DESCRIPTION

☐ NO
☒ YES: FILE NAME NADB-DESC
PROC NAME NADBPOLTISAM

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ____

RECORD SIZE

☒ FIXED LENGTH: 50 CHARACTERS
☐ VARIABLE LENGTH: ____ THRU ____ CHARACTERS

BLOCKING

☐ UNBLOCKED
☒ BLOCKED: 10 ☐ CHARACTERS ☒ RECORDS } PER BLOCK

KEY (IF APPLICABLE)

5 CHARACTERS LONG
CONTENT: POLLUTANT CODE

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA032 - ____ (PROGRAM NAME)
FILE SIZE: 1 POS AS OF 09/4/75
UPDATE FREQUENCY: Irregular when new pollutant cataloged (TIME INTERVAL)
ANTICIPATED GROWTH: ____ ☐ RECORD ☐ TRACKS ☐ ____ PER ____

FILE BACKUP

TYPE: ☐ NONE ☒ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT: ____
FILE NAME: NADB-POLT-T
FREQUENCY: ____
NUMBER OF GENERATIONS KEPT: 2

FILE NAME/DESCRIPTION NADB-POLTFL		RECORD NAME/DESCRIPTION POLT-REC
APPLICATION SAROAD	DATE June 5, 1975	PAGE 1 OF 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	50	50		POLT-REC	Record
1	1	1	X	PF-DELETE	Space
2	6	5		PF-KEY	Pollutant key
2	6	5	X(5)	PF-POLT-COD	Pollutant code
7	50	44	X(44)	PF-POLT-NME	Pollutant name

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions	**DATE** 3/11/76		**PAGE** 36
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** SAROAD **QUALIFIER** NADB **FILE NAME** NADB-YRSUM-B			

7.2.3.10 NADB-YRSUM-B

FILE DESCRIPTION AND USE

One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for 0 in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs(ln), sum of $\ln^2$, units reported NADB criteria met flag, arithmetic mean and standard deviation, and second moment. Also contained in the record are: second maximum value, number of violations of primary standard, number of violations secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum occurred (MO/DA/HR).

USE: Retrieval programs use this file with both interactive and batch access.

FILE TYPE

☐ SDF
  ☐ PRINT FILE
  ☐ PUNCH FILE
  ☐ ____________
☒ ASCII COBOL
  ☐ SEQUENTIAL
  ☒ DIRECT
  ☐ INDEXED - SEQUENTIAL
☐ FORTRAN
  ☐ FORMATTED
  ☐ UNFORMATTED
  ☐ ____________
☐ OTHER ____________

CATALOGUED FILE DESCRIPTION

☒ YES: FILE NAME NADB*NADB-DESC
☐ NO PROC NAME NADBYRSUM

BLOCKING

☐ BLOCKED: ________ ☐ CHARACTERS PER BLOCK
☒ UNBLOCKED ☐ RECORDS

RECORD SIZE

☒ FIXED LENGTH: 5040 CHARACTERS
☐ VARIABLE LENGTH:
______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE) *Actual pointer is record number.
24 CHARACTERS LONG
CONTENT: STATE,AREA,SITE,AGENCY,PROJECT,POLLUTANT,METHOD,INTERVAL,YR,YR INDICATOR

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ____________

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ____________

STORAGE MEDIUM

☒ DISK
☐ TAPE ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ Standard

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA034Y (PROGRAM NAME)
FILE SIZE: 35 POS AS OF 9/4/75
UPDATE FREQUENCY: BI-WEEKLY, EXCEPT FOR JAN., APR.,JULY,& OCT (TIME INTERVAL)
ANTICIPATED GROWTH: 1600 ☒ RECORD ☐ TRACKS ☐ ________ PER Update

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☐ TAPE ☐ DISK
LOCATED AT: EPA
FILE NAME: NADB*NADB-YRSUMS-T
FREQUENCY: BI-WEEKLY
NUMBER OF GENERATIONS KEPT: 4

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Descriptions	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 37
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-YRSUM-B	**RECORD NAME/DESCRIPTION** YRSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 1 **OF** 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	5040	5040		RECORD1-BLOCK	Occurs 36 Times
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observations reported (see note 2)
29	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN
37	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 3)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-STD-DEVIATION (see note 3)
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 3)
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 3)
57	60	4	COMP-1	MAXIMUM	Maximum reported value
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported value

FILE NAME/DESCRIPTION NADB-YRSUM-B	**RECORD NAME/DESCRIPTION** YRSUM-RECORD (Record formats for intervals other than Y and Z only)
APPLICATION SAROAD	**DATE**
	PAGE 2 **OF** 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB was substituted for reported values
77	80	4	COMP-1	SUMX	Sum of reported values
81	84	4	COMP-1	SUMX2	Sum of squares of reported values
85	88	4	COMP-1	SUMLX	Sum of natural logs of reported values
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reported values
93	94	2	X(2)	UNITS	Code for units in which values were reported (see note 4)
95	95	1	SH9(1)	VALID-QUARTERS	See note 5
96	96	1	X(1)	CRIT-FLAG	Criteria flag (see note 6)
97	100	4	COMP-1	SECOND-MAXIMUM	Second highest reported value
101	102	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero if no standard exists

FILE NAME/DESCRIPTION NADB-YRSUM-B	RECORD NAME/DESCRIPTION YRSUM-RECORD

APPLICATION SAROAD	DATE	PAGE 3 OF 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
103	104	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard exists
105	108	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hour when second maximum value was reported
109	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hour when maximum value was reported
113	140	28	X(28)	FILLER	Not used

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2), and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (01-12), quarter number (01-04) or 00, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour intervals (interval code 7) and for 24-hour averages (interval code X) and a value of -1.0 is entered.

NOTE 3. This item has a value of -1.0 (undefined) if:
sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 4. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

FILE NAME/DESCRIPTION NADB-YRSUM-B	**RECORD NAME/DESCRIPTION** YRSUM-RECORD (Record formats for intervals of Y and Z)	
APPLICATION SAROAD	**DATE**	**PAGE** 4 **OF** 4

RECORD POSITION			DATA ITEM		
FIRST	LAST	LENGTH	PICTURE	DATA ITEM NAME	DESCRIPTION

NOTE 5. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria were met regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 6. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION**	User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER**	File Descriptions	**DATE** 3/11/76		**PAGE** 41
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT**	SAROAD			
	QUALIFIER				
	FILE NAME				

FILE NAME/DESCRIPTION NADB-YRSUM-B	**RECORD NAME/DESCRIPTION** YRAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 1 **OF** 3

RECORD POSITION		**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
FIRST	**LAST**				
1	5040	5040		RECORD 2-BLOCK	OCCURS 36 TIMES
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see note 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)

ENVIRONMENTAL PROTECTION AGENCY	**SECTION**	User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
	CHAPTER				
NATIONAL AIR DATA BRANCH	**SUBJECT**	File Descriptions	**DATE** 3/11/76		**PAGE** 42
		SAROAD			
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER**				
	FILE NAME				

FILE NAME/DESCRIPTION DB-YRSUM-B	**RECORD NAME/DESCRIPTION** YRAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 2 **OF** 3

RECORD POSITION		**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
FIRST	**LAST**				
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violation of the primary standard (see note 6)
87	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violation of the secondary standard (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard unit
95	95	1	SH9(1)	VALID-QTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag
97	132	36	X(6) Display-1 Occurs 9	HI-VAL-TIME	Time of occurrence of 9 highest run. avg. values
133	136	4	X(6) Display-1	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6)
137	140	4	X(6) Display-1	MIN-VAL-TIME	Time of occurrence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month (2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month code' contains a 2-digit month number (01-12), quarter number (01-04), or 00 respectively.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 43
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION DB-YRSUM-B	**RECORD NAME/DESCRIPTION** YRAVG-RECORD (Record formats for intervals of Y and Z only)	
APPLICATION SAROAD	**DATE**	**PAGE** 3 **OF** 3

RECORD POSITION					
FIRST	**LAST**	**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.0 is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The 9 highest run. avg. necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.0.

NOTE 4. This item has the value -1.0 if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time of occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTRS contains zero and CRITERIA contains '1'. In yearly summary records, VALID QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

7.2.3.11 NADB-YRSUM-I

FILE DESCRIPTION AND USE

This is a file of indices based on the record keys read from the NADB-QRSUM-T tape file. The indices allow Quarterly Summary Data (from NADB-QRSUM-B) to be accessed in a special mode. This will enable TSO to approximate an ISAM structure.

File is created sequentially, accessed randomly.

FILE TYPE

☐ SDF
  ☐ PRINT FILE
  ☐ PUNCH FILE
  ☐ ____________
☒ ASCII COBOL
  ☐ SEQUENTIAL
  ☒ DIRECT
  ☐ INDEXED - SEQUENTIAL
☐ FORTRAN
  ☐ FORMATTED
  ☐ UNFORMATTED
  ☐ ____________
☐ OTHER ____________

CATALOGUED FILE DESCRIPTION

☐ YES: FILE NAME ____________
☐ NO PROC NAME ____________

BLOCKING

☐ BLOCKED: ________ ☒ CHARACTERS ☐ RECORDS PER BLOCK
☒ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 2280 CHARACTERS
☐ VARIABLE LENGTH: ______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE) *Actual key is record number.

24 CHARACTERS LONG

CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ____________

FILE AVAILABILITY

☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ____________

STORAGE MEDIUM

☒ DISK
☐ TAPE ☐ LABELED ☐ UNLABELED
☐ CARDS
☐ ____________

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA034Y (PROGRAM NAME)
FILE SIZE: 97 POS AS OF ____________
UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)
ANTICIPATED GROWTH: 8000 ☐ RECORD ☐ TRACKS ☐ ______ PER ____________

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT: ____________
FILE NAME: NADB-YRSUM-T
FREQUENCY: ____________
NUMBER OF GENERATIONS KEPT: 4

FILE NAME/DESCRIPTION NADB-YRSUM-I	**RECORD NAME/DESCRIPTION** OUTPUT-Q-RECORD
APPLICATION SAROAD	**DATE**
PAGE 1 **OF** 1	

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	2280			OUTPUT-Q-RECORD	Data Record
1	2280	2280	X(2280)	FILLER	

The record consists of 95 24-character keys. Each key is in the following format:

STATE
AREA
SITE
AGENCY
PROJECT
POLLUTANT
METHOD
INTERVAL
DATE (YR/QTR)

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Descriptions	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
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VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** NADB **FILE NAME** NADB-QRSUM-B			

7.2.3.12 NADB-QRSUM-B

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for 0 in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of $\ln^2$ units reported NADB criteria met flag, arithmetic mean and standard deviation, ln mean and standard deviation, geometric mean and standard deviation and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum value occurred (MO/DA/HR).

USE: Used primarily for the interactive SAROAD terminal system. Also for active site report.

FILE TYPE

☐ SDF
- ☐ PRINT FILE
- ☐ PUNCH FILE
- ☐ ______

☒ ASCII COBOL
- ☐ SEQUENTIAL
- ☒ DIRECT
- ☐ INDEXED - SEQUENTIAL

☐ FORTRAN
- ☐ FORMATTED
- ☐ UNFORMATTED
- ☐ ______

☐ OTHER ______

CATALOGUED FILE DESCRIPTION

☒ YES: FILE NAME NADBDESC

☐ NO PROC NAME QTRSUMFILE

BLOCKING

☐ BLOCKED: ______ ☐ CHARACTERS ☐ RECORDS PER BLOCK

☒ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 5040 CHARACTERS

☐ VARIABLE LENGTH: ______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE) *Actual key is of record within file.

24 CHARACTERS LONG

CONTENT STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN

☐ COMPACT ☐ U ☐ AN

☐ CFH ☐ V ☐ AN

☐ ______

FILE AVAILABILITY

☐ RESTRICTED

☒ PERMANENT

☐ TEMPORARY

☐ ______

STORAGE MEDIUM

☒ DISK

☐ TAPE ☒ LABELED ☐ UNLABELED

☐ CARDS

☐ ______

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA0340 (PROGRAM NAME)

FILE SIZE 97 Pos AS OF 9/4/75

UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)

ANTICIPATED GROWTH: 8000 ☒ RECORD ☐ TRACKS ☐ ______ PER Update

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: ______

FILE NAME: NADB-QRSUM-T

FREQUENCY: BI-WEEKLY

NUMBER OF GENERATIONS KEPT: 4

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Description **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 47
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-QRSUM-B	**RECORD NAME/DESCRIPTION** QRSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 1 **OF** 4

RECORD POSITION		**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
FIRST	**LAST**				
1	5040	5040		RECORD-BLOCK	Occurs 36 times
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
5	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observations reported (see note 2)
9	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values (see note 3)
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN (see note 3)
37	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values (see note 3)
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 4)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITH-STD-DEVIATION (see note 4)
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 4)

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Description **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 48
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-QRSUM-B	**RECORD NAME/DESCRIPTION** ORSUM-RECORD (Record formats for intervals other than Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 2 **OF** 4

RECORD POSITION		**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
FIRST	**LAST**				
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 4)
57	60	4	COMP-1	MAXIMUM	Maximum reported value
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported value
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value.
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of times ZEROSUB was substituted for reported values
77	80	4	COMP-1	SUMX	Sum of reported values
81	84	4	COMP-1	SUMX2	Sum of squares of reported values
85	88	4	COMP-1	SUMLX	Sum of natural logs of reported values

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7 · **CHAPTER** 2 · **SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE** 3/11/76 · **PAGE** 49
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**	

FILE NAME/DESCRIPTION NADB-QRSUM-B

RECORD NAME/DESCRIPTION QRSUM-RECORD-(Record formats for intervals other than Y and Z only.)

APPLICATION

DATE

PAGE 3 **OF** 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
133	136	4	x(6) Display-1	SEC-MAX-TIME	Time of occurence of SECOND-MAX (see note 6)
137	140	4	x(6) Display-1	MIN-VAL-TIME	Time of occurrence of MIN-VALVE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2) and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (01-12), quarter number (01-04), or 00 respectively.

NOTE 2. Since the maximum possible number of 8-hour running average values mav be 6, 12, or 24 (depending on sampling interval), the value -1.0 is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitude; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2_ = HI-VALUE (3), and the time of occurence (HI-VAL-TIME) are not necessarily in chronologic order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.0.

NOTE 4. This item has the value - 1.0 if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at time separated by at least the duration of the averaging interval.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 50
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-QRSUM-B	**RECORD NAME/DESCRIPTION** QRSUM-RECORD-(Record formats for intervals other than Y and Z only.

APPLICATION	**DATE**	**PAGE** 4 **OF** 4

RECORD POSITION		**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
FIRST	**LAST**				

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time of occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALID-QTPS contains zero and CRITERIA contains '1'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

FILE NAME/DESCRIPTION NADB-QRSUM-B	**RECORD NAME/DESCRIPTION** ORAVG-RECORD (Record formats for intervals of Y and Z only)	
APPLICATION SAROAD	**DATE**	**PAGE** 1 **OF** 4

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	5040	5040		RECORD-BLOCK	OCCURS 36 TIMES
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 52
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-QRSUM-B	**RECORD NAME/DESCRIPTION** ORAVG-PECORD-Record formats for intervals of Y and Z only.

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RECORD POSITION					
FIRST	**LAST**	**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violation of the primary standard (See note 6)
87	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violation of the secondary standard (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard units
95	95	1	SH9(1)	VALID-QTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag (See note 7)
97	132	36	X(6)	HI-VAL-TIME	Time of occurrence of the 9 highest run. avg. values

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Descriptions **SUBJECT** SAROAD	**SECTION** 7 **CHAPTER** 2 **SUBJECT** 3
NATIONAL AIR DATA BRANCH	**QUALIFIER**	**DATE** 3/11/76 **PAGE** 53
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**FILE NAME**	

FILE NAME/DESCRIPTION NADB-QRSUM-B

RECORD NAME/DESCRIPTION ORSUM-RECORD (Record formats for intervals other than Y and Z only.)

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RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reported values
93	94	2	X(2)	UNITS	Code for units in which values were reported (see note 4)
95	95	1	SH9(1)	VALID-QUARTERS	See note 5
96	96	1	X(1)	CRIT-FLAG	Criteria flag (see note 6)
97	100	4	COMP-1	SECOND-MAXIMUM	Second highest reported value
101	102	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of the primary standard or zero if no standard exists
102	104	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of the secondary standard or zero if no standard exists
105	108	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hour when second maximum value was reported
109	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hour when maximum value was reported
113	140	28	X(28)	FILLER	Not used

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE**		**PAGE**
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**	3/11/76		54

FILE NAME/DESCRIPTION NADB-QRSUM-B	**RECORD NAME/DESCRIPTION** ORSUM-RECORD-Record formats for intervals other than Y and Z only.	
APPLICATION SAROAD	**DATE**	**PAGE** 4 **OF** 4

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (01-12), quarter number (01-04) or 00, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data samplied at 24-hour intervals (interval code 7) and for 24-hour averages (interval code X) and a value of -1.0 is entered.

NOTE 3. This item has value of -1.0 (undefined) if:

sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 4. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 5. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria were met regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 6. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year) are satisfied, or contains a blank otherwise.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Descriptions	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 55
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** NADB **FILE NAME** NADB-QRSUM-I			

7.2.3.13 NADB-QRSUM-I

FILE DESCRIPTION AND USE

This is a file of indices based on the record keys read from the NADB-QRSUM-T tape file. The indices allow Quarterly Summary Data (from NADB-QRSUM-B) to be accessed in a special mode. This will enable TSO to approximate an ISAM structure.

File is created sequentially, accessed randomly.

FILE TYPE

- ☐ SDF
  - ☐ PRINT FILE
  - ☐ PUNCH FILE
  - ☐ ____________
- ☒ ASCII COBOL
  - ☐ SEQUENTIAL
  - ☒ DIRECT
  - ☐ INDEXED - SEQUENTIAL
- ☐ FORTRAN
  - ☐ FORMATTED
  - ☐ UNFORMATTED
  - ☐ ____________
- ☐ OTHER ____________

CATALOGUED FILE DESCRIPTION

☐ YES: FILE NAME ____________

☐ NO PROC NAME ____________

BLOCKING

☐ BLOCKED: ________ ☐ CHARACTERS ☐ RECORDS PER BLOCK

☒ UNBLOCKED

RECORD SIZE

☒ FIXED LENGTH: 2280 CHARACTERS

☐ VARIABLE LENGTH: ______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE) *Actual key is 24 CHARACTERS LONG

CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE

☒ INTERNAL ☐ F ☐ AN

☐ COMPACT ☐ U ☐ AN

☐ CFH ☐ V ☐ AN

☐ ____________

FILE AVAILABILITY

☐ RESTRICTED

☒ PERMANENT

☐ TEMPORARY

☐ ____________

STORAGE MEDIUM

☒ DISK

☐ TAPE ☐ LABELED ☐ UNLABELED

☐ CARDS

☐ ____________

FILE CREATION AND MAINTENANCE

FILE CREATED OR UPDATED BY: NA0340 (PROGRAM NAME)

FILE SIZE: 97 POS AS OF ____________

UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)

ANTICIPATED GROWTH: 8000 ☐ RECORD ☐ TRACKS ☐ ________ PER ____________

FILE BACKUP

TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL

MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK

LOCATED AT: ____________

FILE NAME: NADB-QRSUM-T

FREQUENCY: ____________

NUMBER OF GENERATIONS KEPT: 4

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 56
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-QRSUM-I	**RECORD NAME/DESCRIPTION** OUTPUT-Q-RECORD	
APPLICATION SAROAD	**DATE**	**PAGE** 1 **OF** 1

RECORD POSITION		LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
FIRST	LAST				
1	2280			OUTPUT-Q-RECORD	Data Record
1	2280	2280	X(2280)	FILLER	

The record consists of 95 24-character keys. Each key is in the following format:

STATE
AREA
SITE
AGENCY
PROJECT
POLLUTANT
METHOD
INTERVAL
DATE(YR/QTR)

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 57
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** NADB **FILE NAME** NADB-MOSUM-T			

7.2.3.14 NADB-MOSUM-T

FILE DESCRIPTION AND USE One record for each pollutant/site/time period. The record contains: % of possible observations, maximum, minimum, median values, the value substituted for 0 in constructing statistics, number of substitutions, number of observations, sum of values, sum of squares, sum of natural logs (ln), sum of $\ln^2$, units reported NADB criteria met flag, arithmetic mean and standard deviation, ln mean and standard deviation, geometric mean and standard deviation and second moment. Also contained in the record are: second maximum value, number of violations of primary standards, number of violations secondary standards, time at which maximum value occurred (MO/DA/HR), and time at which second maximum occurred (MO/DA/HR).

USE: Used primarily to update the monthly summary file.

FILE TYPE
☐ SDF
☐ PRINT FILE
☐ PUNCH FILE
☐ ______
☒ ASCII COBOL
☒ SEQUENTIAL
☐ DIRECT
☐ INDEXED - SEQUENTIAL
☐ FORTRAN
☐ FORMATTED
☐ UNFORMATTED
☐ ______
☐ OTHER ______

CATALOGUED FILE DESCRIPTION
☐ YES: FILE NAME ______
☒ NO PROC NAME ______

BLOCKING
☒ BLOCKED: 36 ☐ CHARACTERS ☒ RECORDS PER BLOCK
☐ UNBLOCKED

RECORD SIZE
☒ FIXED LENGTH: 140 CHARACTERS
☐ VARIABLE LENGTH: ______ THROUGH ______ CHARACTERS

KEY (IF APPLICABLE)
24 CHARACTERS LONG
CONTENT: STATE/AREA/SITE/AGENCY/PROJECT/POLLUTANT/METHOD/INTERVAL/YEAR/INDICATOR

RECORDING MODE
☒ INTERNAL ☐ F ☐ AN
☐ COMPACT ☐ U ☐ AN
☐ CFH ☐ V ☐ AN
☐ ______

FILE AVAILABILITY
☐ RESTRICTED
☒ PERMANENT
☐ TEMPORARY
☐ ______

STORAGE MEDIUM
☐ DISK
☒ TAPE ☒ LABELED ☐ UNLABELED
☐ CARDS
☐ ______

FILE CREATION AND MAINTENANCE
FILE CREATED OR UPDATED BY: NAB034 (PROGRAM NAME)
FILE SIZE: 6 Volumes AS OF ______
UPDATE FREQUENCY: Bi-Weekly (TIME INTERVAL)
ANTICIPATED GROWTH: 8000 ☒ RECORD ☐ TRACKS ☐ ______ PER Update

FILE BACKUP
TYPE: ☐ NONE ☐ SYSTEM ☒ SPECIAL
MEDIUM: ☐ CARDS ☒ TAPE ☐ DISK
LOCATED AT: EPA-RTP
FILE NAME: NADB-MOSUM-T (-1)
FREQUENCY: Bi-Weekly
NUMBER OF GENERATIONS KEPT: 4

ENVIRONMENTAL PROTECTION AGENCY	**SECTION**	User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
	CHAPTER	File Descriptions	**DATE** 3/11/76		**PAGE** 58
NATIONAL AIR DATA BRANCH	**SUBJECT**	SAROAD			
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER**				
	FILE NAME				

FILE NAME/DESCRIPTION	**RECORD NAME/DESCRIPTION**
NADB-MOSUM-T	MOSUM-RECORD (Record formats for intervals other than Y and Z only.)

APPLICATION	**DATE**	
SAROAD		**PAGE** 1 **OF** 4

RECORD POSITION			**DATA ITEM**		
FIRST	**LAST**	**LENGTH**	**PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
1	24	24	X(24)	SUMKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBSERVATIONS	% of possible observations reported (see note 2)
29	32	4	COMP-1	ARITHMETIC-MEAN	Arithmetic mean of reported values
33	36	4	COMP-1	LOG-MEAN	Natural log of ARITHMETIC MEAN
37	40	4	COMP-1	GEOMETRIC-MEAN	Geometric mean of reported values
41	44	4	COMP-1	ARITH-STD-DEVIATION	Standard deviation about the arithmetic mean (see note 3)
45	48	4	COMP-1	LOG-STD-DEVIATION	Natural log of ARITHMETIC DEVIATION (see note 3)
49	52	4	COMP-1	GEOM-STD-DEVIATION	Standard deviation about the geom. mean (see note 3)
53	56	4	COMP-1	SECOND-MOMENT	Variance about the arithmetic mean (see note 3)
57	60	4	COMP-1	MAXIMUM	Maximum reported value
61	64	4	COMP-1	MEDIAN	Median reported value
65	68	4	COMP-1	MINIMUM	Minimum reported value

FILE NAME/DESCRIPTION NADB-MOSUM-T		RECORD NAME/DESCRIPTION MOSUM-RECORD (Record formats for intervals other than Y and Z only.)
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RECORD POSITION			DATA ITEM		
FIRST	LAST	LENGTH	PICTURE	DATA ITEM NAME	DESCRIPTION
69	72	4	COMP-1	ZEROSUB	The value substituted for reported values smaller than the minimum detectable value.
73	74	2	SH9(5)	OBSERVATIONS	# of reported values
75	76	2	SH9(5)	ZEROCNT	# of time ZEROSUB was substituted for reported values
77	80	4	COMP-1	SUMX	Sum of reported values
81	84	4	COMP-1	SUMX2	Sum of squares of reported values
85	88	4	COMP-1	SUMLX	Sum of natural logs of of reported values
89	92	4	COMP-1	SUMLX2	Sum of squares of natural logs of reported values
93	94	2	X(2)	UNITS	Code for units in which values were reported (see note 4)
95	95	1	SH9(1)	VALID-QUARTERS	See note 5
96	96	1	X(1)	CRIT-FLAG	Criteria flag (see note 6)
97	100	4	COMP-1	SECOND-MAXIMUM	Second highest reported value
101	102	2	SH9(5)	PRIMARY-VIOLATIONS	# of violations of primary standard or zero if no standard exists

ENVIRONMENTAL PROTECTION AGENCY	**SECTION**	User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER**	File Descriptions	**DATE** 3/11/76		**PAGE** 60
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT**	SAROAD			
	QUALIFIER				
	FILE NAME				

FILE NAME/DESCRIPTION NADB-MOSUM-T	**RECORD NAME/DESCRIPTION** MOSUM-RECORD (Record formats for intervals other than Y and Z only)

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RECORD POSITION					
FIRST	**LAST**	**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
103	104	2	SH9(5)	SECONDARY-VIOLATIONS	# of violations of secondary standard or zero if no standard exists
105	112	4	X(6) Display-1	TIME-OF-SEC-MAX	Month, day and end-hour when second maximum value was reported
109	112	4	X(6) Display-1	TIME-OF-PRI-MAX	Month, day and end-hour when maximum value was reported
113	140	28	X(28)	FILLER	Not used

ENVIRONMENTAL PROTECTION AGENCY	**SECTION**	User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
	CHAPTER	File Descriptions	**DATE** 3/11/76		**PAGE** 61
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VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER**				
	FILE NAME				

FILE NAME/DESCRIPTION NADB-MOSUM-T	**RECORD NAME/DESCRIPTION** MOSUM-RECORD (Record formats for intervals other than y and Z only)

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RECORD POSITION					
FIRST	**LAST**	**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**

NOTE 1. SAROAD key contains key for: state(2), area(4), site(3), agency(1), project(2), pollutants(5), method(2), interval(1), year(2) and month(2); number in parenthesis indicates the number of characters for each code. For composite data records, the 'month-code' contains the sampling interval of the composited data and the period of compositing (1 character each). For monthly, quarterly and yearly summary records the 'month code' contains the month number (01-12), quarter number (01-04) or 00, respectively.

NOTE 2. PERCENT-OBSERVATIONS is undefined for data sampled at 24-hour intervals (interval code 7) and for 24-hour averages (interval code X) and a value of -1.0 is entered.

NOTE 3. This item has a value of -1.0 (undefined) if:
Sampling interval is 24 hours or greater and there is only 1 reported value.

NOTE 4. The reporting units code is taken from the last record used in constructing monthly summary records and from the first record used in constructing quarterly and yearly summary records. All values in the summary record are in standard units for each pollutant/method.

NOTE 5. This item is meaningful in yearly summary records only, and indicates the number of quarters during which criteria weremet regarding the number of reported values. In monthly and quarterly summary records, this item contains zero.

NOTE 6. The "criteria flag" contains "1" if the sampling criteria for the summarization interval (month, quarter, or year(are satisfied, or contains a blank otherwise.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions **SUBJECT** SAROAD	**DATE** 3/11/76		**PAGE** 62
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-MOSUM-T	**RECORD NAME/DESCRIPTION** MOAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 1 **OF** 3

RECORD POSITION FIRST	RECORD POSITION LAST	LENGTH	DATA ITEM PICTURE	DATA ITEM NAME	DESCRIPTION
1	24	24	X(24)	AVGKEY	SAROAD key for this record (see note 1)
25	28	4	COMP-1	PERCENT-OBS	% of possible running averages present (see note 2)
29	64	36	COMP-1 (occurs 9)	HI-VALUE	The 9 highest running average values (see note 3)
65	68	4	COMP-1	SECOND-MAX	The non-overlapping second maximum value (see note 4)
69	72	4	COMP-1	MIN-VALUE	The smallest running average value
73	74	2	SH9(5)	NUMBER-OBS	# of running average values present
75	76	2	SH9(5)	PRI-VIOLATIONS	Total # of violations of the primary standard
77	78	2	SH9(5)	PRI-NOVL-VIOLATIONS	# of non-overlapping violations of the primary standard (see note 5)
79	80	2	SH9(5)	SEC-VIOLATIONS	Total # of violations of the secondary standard
81	82	2	SH9(5)	SEC-NOVL-VIOLATIONS	# of non-overlapping violations of the secondary standard (see note 5)

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
NATIONAL AIR DATA BRANCH	**CHAPTER** File Descriptions	**DATE** 3/11/76		**PAGE** 63
VOLUME III. AEROS SUMMARY AND RETRIEVAL MANUAL	**SUBJECT** SAROAD **QUALIFIER** **FILE NAME**			

FILE NAME/DESCRIPTION NADB-MOSUM-T	**RECORD NAME/DESCRIPTION** MOAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 2 **OF** 3

RECORD POSITION					
FIRST	**LAST**	**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**
83	86	4	X(6) Display-1	LAST-PRI-VIOLATION	Time of the last violation of the primary standard (see note 6)
87	90	4	X(6) Display-1	LAST-SEC-VIOLATION	Time of the last violation of the secondary standard (see note 6)
91	92	2	X(2)	FILLER	Not used
93	94	2	X(2)	UNITS-CODE	Code for standard units
95	95	1	SH9(1)	VALID-QTRS	See note 7
96	96	1	X(1)	CRITERIA	Criteria flag (See note 7)
97	132	36	X(6) Display-1	HI-VAL-TIME	Time of occurrence of 9 highest run. avg. values
133	136	4	X(6)	SEC-MAX-TIME	Time of occurrence of SECOND-MAX (see note 6)
137	140	4	X(6) Display-1	MIN-VAL-TIME	Time of occurrence of MIN-VALUE (see note 6)

NOTE 1. SAROAD key contains keys for: state(2), area(4), site(3), agency(1), project(2), pollutant(5), method(2), interval(1), year(2), and month(2); numbers in parentheses indicate the number of characters for each code. In monthly, quarterly and yearly summary records the 'month-code' contains a 2-digit month number (01-12), quarter number (01-04), or 00, respectively.

ENVIRONMENTAL PROTECTION AGENCY	**SECTION** User Generated Retrievals **CHAPTER** File Descriptions	**SECTION** 7	**CHAPTER** 2	**SUBJECT** 3
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FILE NAME/DESCRIPTION NADB-MOSUM-T	**RECORD NAME/DESCRIPTION** MOAVG-RECORD (Record formats for intervals of Y and Z only)

APPLICATION SAROAD	**DATE**	**PAGE** 3 **OF** 3

RECORD POSITION					
FIRST	**LAST**	**LENGTH**	**DATA ITEM PICTURE**	**DATA ITEM NAME**	**DESCRIPTION**

NOTE 2. Since the maximum possible number of 8-hour running average values may be 6, 12, or 24 (depending on sampling interval), the value -1.0 is assigned to PERCENT-OBS when interval code is Y or Z.

NOTE 3. Values are in descending magnitute; i.e., HI-VALUE (1) is the largest, HI-VALUE (9) is the smallest of the 9 values. The nine values are not necessarily unique; if the largest value occurs 3 times, for example, then HI-VALUE (1) = HI-VALUE (2) = HI-VALUE (3), and the time of occurrence (HI-VAL-TIME) are not necessarily in chronological order. If fewer than 9 values are present, the excess HI-VALUE items have the value -1.0.

NOTE 4. This item has the value -1.0 if a non-overlapping average value cannot be found.

NOTE 5. Non-overlapping violations are those which occur at times separated by at least the duration of the averaging interval.

NOTE 6. Times of occurrence consist of month, day and end-hour codes (2-digits each), stored as FIELDATA (rather than ASCII). If a time is undefined the time if occurrence field contains FIELDATA zeros.

NOTE 7. In monthly and quarterly summary records, VALDI-QTRS contains zero and CRITERIA contains '1'. In yearly summary records, VALID-QTRS contains the number of quarterly summary records present; CRITERIA contains '1' if all four quarters are present or blank otherwise.

7.2.3.15 QAMIS-TAPE

FILE NAME: QAMIS-TAPE. CASG,A NADB*QAMIS-TAPE.

ABSTRACT:
HISTOLD & HISTNEW are the QAMIS data file. HISTOLD is the old tape input to NA242. NA042 updates HISTOLD and produces HISTNEW, the new data tape. HISTOLD is ,input to QAMR; which produces reports based on the data in the file.

USES:
HISTOLD & HISTNEW are used by NA042 to store QAMIS data to use as input to the NA242 Report Generating Program.

MEDIA AND AVAILABILITY:
File Media Tape___x___ Disk______ Cards______

File Availability: Permanent Mounted______ Restricted Use______

FILE CHARACTERISTICS:
Label Usage: Standard___x___ Non-Standard______ Unlabeled______

Record Format: Blocked______ Unblocked___x___ Blocksize______

Record Type___Fixed Length___ Record Size___139___

ORGANIZATION AND STRUCTURE:
Sequential

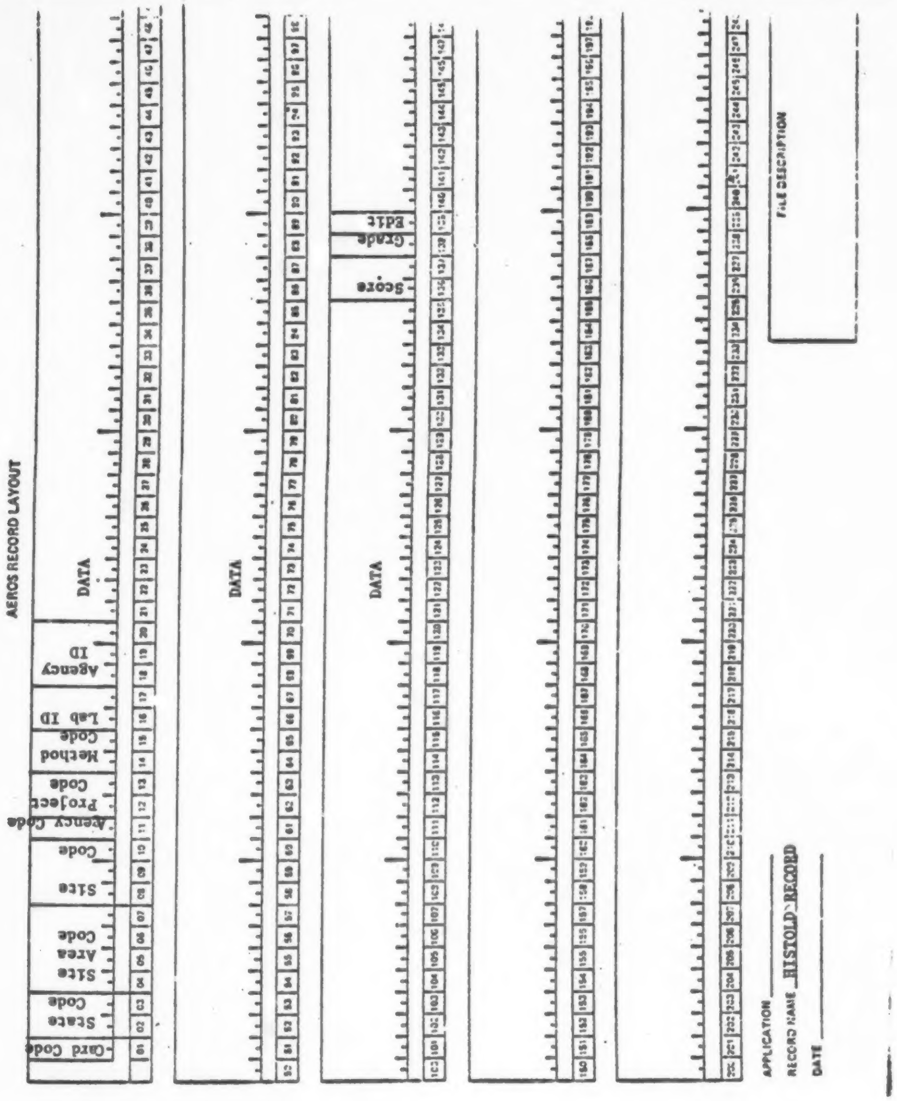
SIZE AND ANTICPATED GROWTH:
This file will grow as more QAMIS Data is submitted to NADB.

UPDATED FREQUENCY:
Updated with each run of NA042

BACKUPS:
HISTOLD and the input to NA042 are a backup to HISTNEW. Two level backup is recommened: current (HISTNEW) and two previous (HISTOLD).

ASSOCIATED PROGRAMS: NA042, NA242

COMMENTS:
HISTOLD is merely the output tape, HISTNEW, from the previous run of NA042 (NA042 does not test the file name in the tape's label). Thus HISTOLD and HISTNEW are different generations of the same file.


AEROS RECORD LAYOUT
Card Code
State Code
Site Area Code
Site
Code
Agency Code
Project Code
Method Code
Lab ID
Agency ID
DATA
DATA
DATA
Score
Grade
Edit
FILE DESCRIPTION
APPLICATION
RECORD NAME HISTOLD RECORD
DATE

8.1.0.0 BACKGROUND

The NEDS point source coding form includes a one-column field on card 6 to depict the confidentiality status of all or part of the point source data on NEDS cards 1 through 6. A number "1" in this field indicates that someone (the state agency, the local agency, the source) considers the data to be proprietary in nature and unsuitable for public release. The number "2", on the other hand, indicates that the originator considers the data suitable for public dissemination.

The original NADB collection effort in 1971-73 revealed that many states desired that their data be treated as confidential; consequently, many point sources in the NEDS data bank were coded as such into the NEDS system. (This understanding was often necessary before the data could even be obtained from the state files.) It must be emphasized that no official decision was necessarily made on the true legal status of the data. Thus, a status of "confidential" might have been assigned by a technician, engineer, or other person inexperienced in law. In 1973, more than 2500 facilities contained in the NEDS data bank had one or more emission points coded as "confidential."

Throughout 1972, 1973, and 1974, NADB worked with the Office of General Counsel (OGC) to resolve the issue of confidential NEDS data. Although this matter requires an official, legal determination for each individual source, OGC has not taken any action as of July 1975.

Discussions with OGC, however, indicated the following:

1. EPA personnel (and presumably their contractors) can have access to all NEDS data including "confidential" information.
2. In all liklihood, no NEDS data are truly proprietary under Federal law. The only NEDS data that could possibly be a trade secret are capacity and annual throughput.
3. EPA has the legal right to collect data essential for enforcement of the Clean Air Act; this includes emissions and/or the technical data required to calculate emissions.
4. Data contained in NEDS are subject only to the Federal Statute on Trade Secrets, not state laws on the subject.

OGC also indicated that the most feasible way to resolve the issue would be for an EPA legal representative to correspond directly with each facility and require them to document any claim of proprietary NEDS data within 30 days. In all liklihood, the great majority of facilities would not even respond; for these sources, the status of the data could be reclassified as a code "2." As of July 1975, the above procedure had not yet been initiated by either OGC or the Regional Counsels.

Environmental Protection Agency	SECTION NEDS CONFIDENTIALITY	SECTION 8	CHAPTER 2	SUBJECT 0
National Air Data Branch	CHAPTER CODING POLICY	DATE 3/11/76		PAGE 1
Volume III AEROS Summary & Retrieval	SUBJECT			

8.2.0.0 NADB CODING POLICY REGARDING CONFIDENTIAL NEDS DATA

In addition to codes 1 and 2, NADB has authorized a code 3 to be assigned to a NEDS point source. This code (not yet extensively used) reflects the fact that OGC has determined that all or part of the NEDS data for that source is officially and legally a trade secret. This code may be assigned only by the AEROS representative in each Regional Office only upon written statement from the Regional Counsel. Upon such notification the AEROS contact makes this change from code 1 to code 3 and also removes the confidential data in accordance with established update procedures.

NEDS edit checks require that a code 1, 2, or 3 must be assigned to each point source; data with a blank field are rejected. Thus, the NEDS data bank is composed of the following:

Code 1: Data considered to be confidential by the originator but no EPA documentation has been made.

Code 2: Public information.

Code 3: All data officially determined to be a trade secret have been removed by the Regional Offices; thus the remaining information is releasable to the public.

8.3.0.0. NADB REQUEST PROCEDURES FOR CONFIDENTIAL DATA

NADB has modified the NEDS report program to allow the following data items to be deleted for point sources with a confidentiality code of "1".

1. Annual throughput
2. Production capacity
3. Emission estimation method

It should be emphasized that this is merely one report option and only affects the complete and condensed point source listings. Thus two separate point source listings are obtainable upon request:

1. A listing containing all data for all sources with codes of 1, 2, and 3.
2. A listing containing all data for all sources with codes 2 and 3 plus all data except throughput, capacity, and estimation method for all sources with a code 1.

Report 1 is provided to EPA users with warnings that the listing may contain proprietary data and should be safeguarded. Report 2 is provided to non-EPA users, including requestors under the Freedom of Information Act, with statements that certain data have been omitted from the listings due to the question of confidentiality.

In the event of a request for point source listing by a non-EPA user who requests the entire information under the Freedom of Information Act, the procedures for a determination of confidentiality according to 40 CFR Part 2 should be formally initiated by the designated FIA officer.

8.4.0.0 PROCEDURES TO CHANGE CONFIDENTIALITY STATUS FROM CODE 1 TO CODES 2 or 3

The objective is to minimize or eliminate the number of NEDS point sources having a "code 1" confidentiality status. At the same time, such "code 1" data should be in the NEDS system so that information is accessible to users. NEDS data transmitted from the states to the Regional Offices are processed through the terminal edit system; all sources with a blank space in the confidential fields are automatically rejected and must be returned to the originator for correction. Valid data are updated into NEDS. A point source listing is then obtained for all sources having a code 1 and is given to the Regional Counsel along with a request for a legal determination of confidentiality. He then advises the AEROS contact (in writing) which data, if any, are confidential under Federal statutes for a given source. The AEROS representative either recodes the confidentiality status to a "code 2" or deletes the proprietary data and recodes to a "code 3". A log should be kept within the Regional Office showing the following items for each source forwarded to Regional Counsel for determination of confidentiality:

1. Date provided to Regional Counsel
2. Date received by Regional Counsel
3. NEDS ID number
4. Action taken (e.g., recorded to Code 2 or Code 3?)
5. Confidential items deleted if any

These procedures are graphically presented in the following chart.

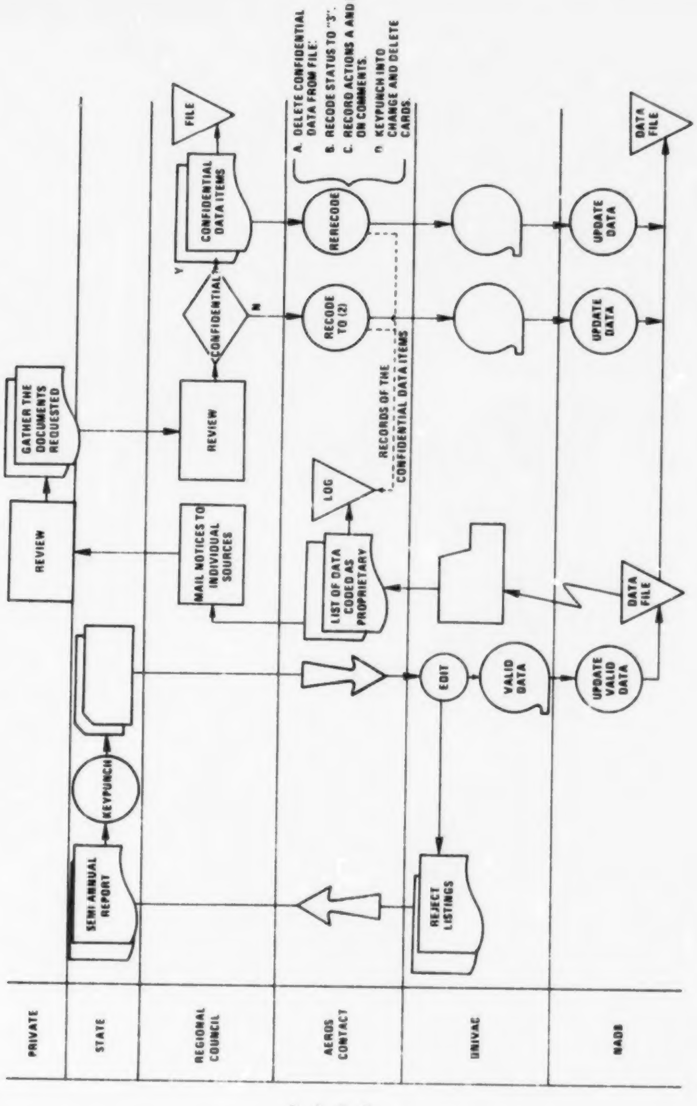


Figure 8.4.0.a. Flowchart for dealing with NEDS data coded as "confidential."

8.5.0.0 RATIONALE FOR NADB POLICY ON CONFIDENTIAL DATA

1. It is consistent with the position that there can be no privileged and confidential information in the data, based on a pledge of confidentiality to the states, since EPA may make no such pledge [40 CFR Part 2, section 2.107a(b)(3)] in connection with information it is entitled by law to demand (under section 114 of the act and 40 CFR 51.7); this is covered in Chapter 8.1.0.0 of the draft procedures.

2. It holds that, the foregoing being correct, NADB is not required to and will not set in place any security measures for data with a code 1. NEDS/NADB uses code 1 as (a) the key to identify emission points in NEDS for which it will set aside (omit from the computer printout of the emission point data listing) certain data items as exempt from public disclosure [40 CFR Part 2, Public Information, section 2.105(a)(4)] because they may disclose trade secrets, and (b) the key for the initiation of the procedures described in 40 CFR Part 2, sections 2.105(b) and 2.107a(a) for the making of a determination of the trade secret status of the data.

3. It provides that security measures need be, and will only be taken after trade secret status has been established, and that the data involved should be removed from the data bank and appurtenances (other record containing devices) because it would be virtually impossible to provide security for the entire data system.

4. Consistent with the Regional Offices' other responsibilities for the data, those offices are required to remove and maintain security for the data determined to have trade secret status in simple manual files.

The Comprehensive Data Handling System (CDHS) was originally developed by EPA in response to state and local requirements for controlling atmospheric pollution. These agencies needed a data handling sytem similar to, but on a smaller scale than the EPA system. A fraction of the number of report capabilities available on the EPA system meet their needs, and generally they utilize a smaller data base.

At present CDHS consists of three categories:

1. Air Quality Data Handling Subsystem-II (AQDHS-II)
2. Enforcement Management Subsystem (EMS)
3. Emissions Inventory Subsystem/Permit and Registration (EIS/P&R)

Each of these subsystems performs a function equivalent to one of the EPA computer software systems. AQDHS-II can store and retrieve air quality monitoring data and thus corresponds functionally to EPA's SAROAD system. EMS, which corresponds functionally to the Compliance Data System of EPA, can store and retrieve compliance data and also schedule enforcement activities. EIS/P&R corresponds functionally to EPA's NEDS. This system will store, retrieve, and maintain emissions data and data pertinent to permit and registration operations.

The file formats of the CDHS subsystems do not match those of the corresponding EPA systems. The CDHS subsystems often provide state and local authorities with information beyond what is offered by the EPA subsystems. For example, in addition to the data required by NEDS, EIS/P&R stores information such as plant telephone number, principal product, exhaust velocity, control equipment cost, etc.

In order to avoid placing upon state and local authorities the burden of collecting data to satisfy both systems, CDHS was created with the capability to convert its file formats to the input formats used by the EPA systems. Thus, quarterly and semi-annual data can be submitted directly from CDHS, expediting the flow of data into regional offices and EPA. For example, FIS/P&R has the capacity to produce emissions data in suitable format for updating the NEDS systems as well as to accept emissions data created by NEDS for its own initial file creation. This simplifies the procedures by which a state can meet the semi-annual reporting requirements of NEDS while maintaining the currency of its own data system.

The mutually supportive aspects of the CDHS subsystems and the corresponding EPA systems offer many advantages to state and local agencies. In addition, by installing CDHS on their own computers or on computers to which they have access, state and local agencies avoid the substantial cost involved in developing and maintaining duplicate computer software systems.

The Air Quality Data Handling Subsystem-II was created to provide a central source from which information necessary to air pollution control might be obtained. In order to accomplish this purpose, AQDHS-II needed to provide a systematic method for collecting air quality control data into a data base, for accessing and analyzing the information contained therein, and for printing this information in usable form.

To this end, the basic AQDHS-II system consists of the following:

1. A file maintenance program that provides for the creation of a data base, and for options to keep the information in that data base current and useful.
2. A retrieval program that provides the means of extracting desired information form the data base.
3. A program for performing statistical analysis on the data contained in the data base.
4. A program for calculating sliding averages on the data contained in the data base.
5. Three output-print programs with the ability to convert information extracted from the data base into reader usable form.

In addition to the basic system outlined above, AQDHS-II contains several preprocessor and postprocessor programs that make it compatible with files produced by the old AQDHS systems, the old AQDHS or SAROAD input transactions, and the SAROAD system.

A more detailed discussion of the components of the basic AQDHS-II system follows.

The data base created by the File Maintenance Program is called the AQDHS-II Master File. The AQDHS-II Master File consists of records, each of which is designed to contain all data related to a particular parameter collected at a specific test site. The records in the Master File differ somewhat in format according to the time period they represent. The period of time represented by a record is determined by the interval at which the samples for that record were taken. A record representing one day's worth of data results from a sampling interval of less than 24 hours; one representing a month's worth of data results from a daily or weekly sampling interval; and one representing a year of data from a monthly or quarterly sampling interval. Composite data may also be stored. Composite readings may represent either weekly, monthly, quarterly, or a full year's worth of data.

The input card formats are presented in Figure 9.1.1.a. Format 1 is used to enter readings taken at less than daily intervals. Formats 2 and 3 are used for all other readings. Readings for multiple parameters are entered in Format 2. Readings from multiple stations are entered in Format 3. Composite data are entered in Format 2. The corresponding SAROAD input format is shown on each load sheet.

The formats for the various file maintenance transactions are presented in Figure 9.1.1.b.

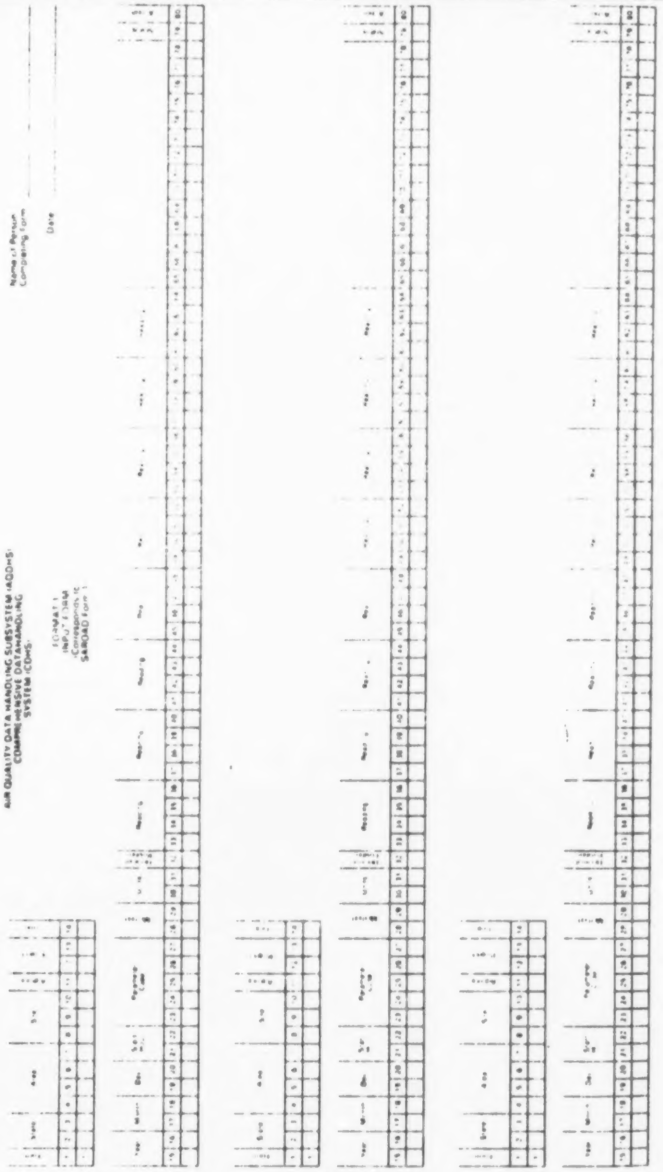


Figure 9.1.1.a. AQDHS-II Input Card Form

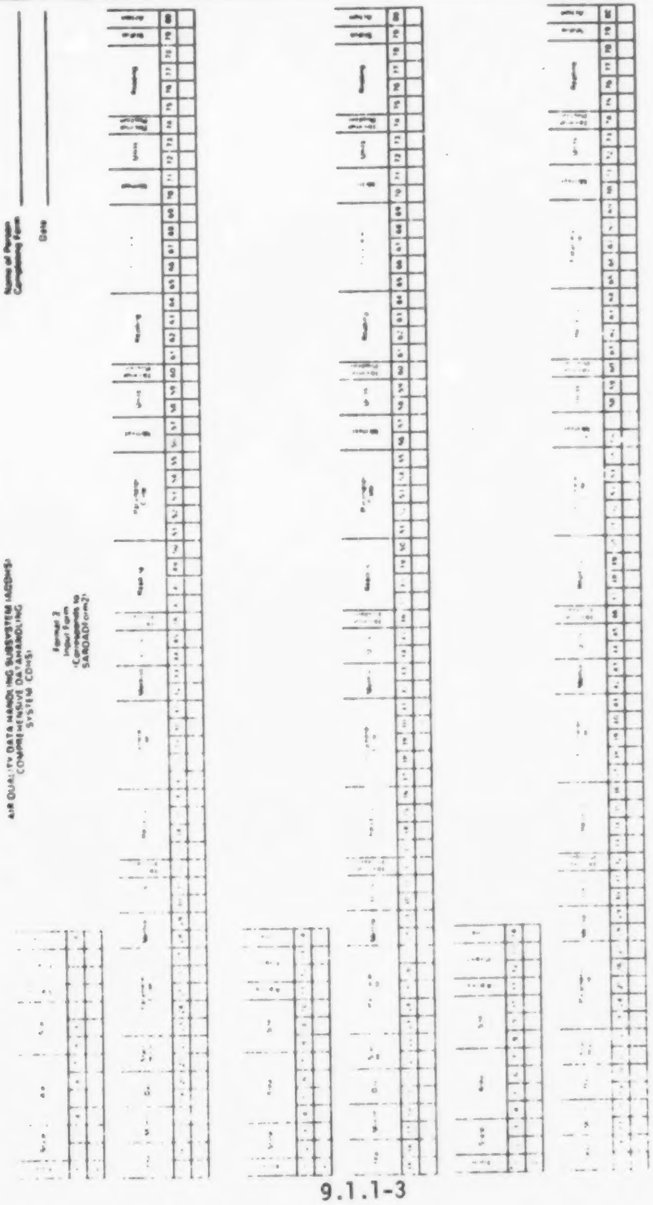


Figure 9.1.1.a (continued). AQDHS-II Input Card Form

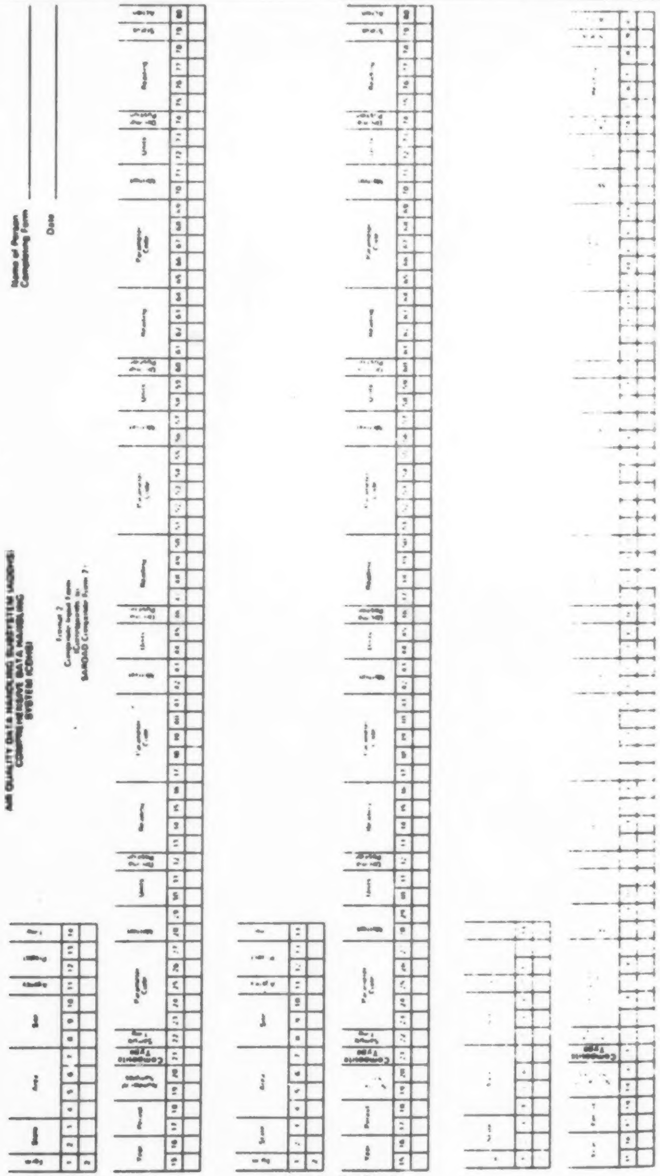
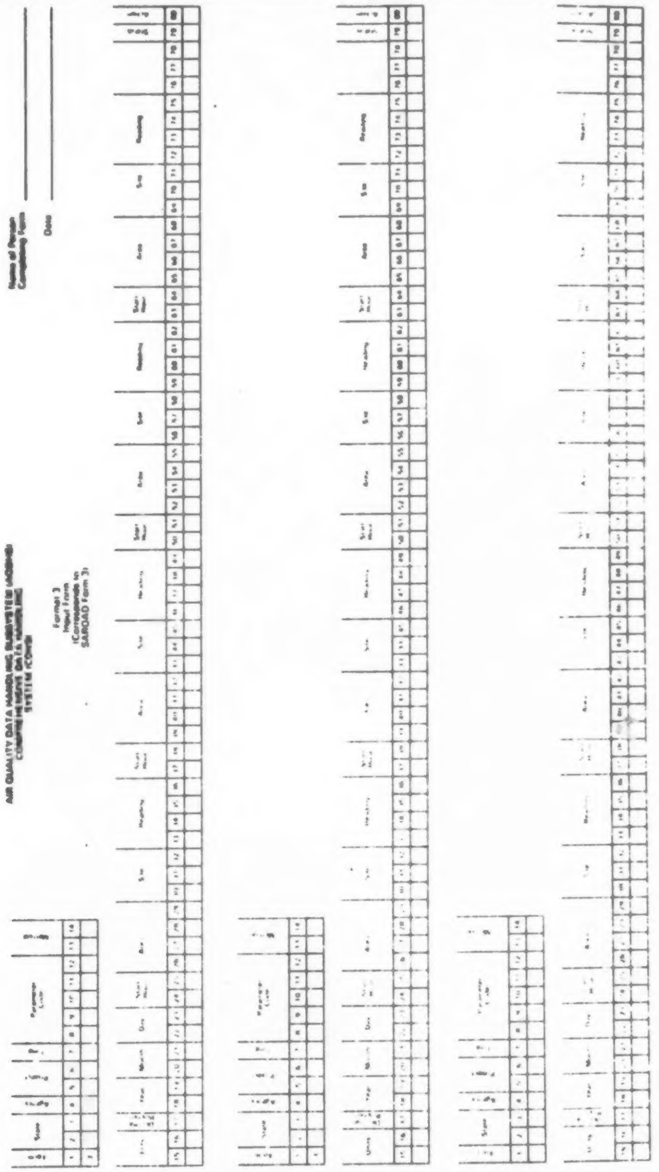


Figure 9.1.1.a (continued). AQDHS-II Input Card Form



AIR QUALITY DATA HANDLING SUBSYSTEM (AQDHS)
COMPREHENSIVE DATA HANDLING
SYSTEM (CDHS)

Format 3
Input Form
(Corresponds to
SAROAD Form 3)

Name of Person
Completing Form ____________

Date ____________

Figure 9.1.1.a (continued). AQDHS-II Input Card Form

Format 1 AQDHS-II Transaction

Columns	Format	Symbol	Description
1	9	Numeric	Form Code
2-3	XX	Alphameric	State Code
4-7	9999	Numeric	Area Code
8-10	999	Numeric	Site Code
11	A	Alphabetic	Agency Code
12-13	99	Numeric	Project Code
14	9	Numeric	Time Code
15-16	99	Numeric	Year
17-18	99	Numeric	Month
19-20	99	Numeric	Day
21-22	99	Numeric	Start Hour
23-27	99999	Numeric	Parameter Code
28-29	99	Numeric	Method Code
30-31	99	Numeric	Units Code
32	9	Numeric	Decimal Position
33-36	9999	Numeric	Reading
37-40	9999	Numeric	Reading
41-44	9999	Numeric	Reading
45-48	9999	Numeric	Reading
49-52	9999	Numeric	Reading
53-56	9999	Numeric	Reading
57-60	9999	Numeric	Reading
61-64	9999	Numeric	Reading
65-78			Unused
79	A	Alphabetic	Status Flag
80	9	Numeric	Action Code

Figure 9.1.1.b. AQDHS-II File Maintenance Transactions

Format 2 AQDHS-II Transactions

Columns	Format	Symbol	Description
1	9	Numeric	Form Code
2-3	XX	Alphameric	State Code
4-7	9999	Numeric	Area Code
8-10	999	Numeric	Site Code
11	A	Alphabetic	Agency Code
12-13	99	Numeric	Project Code
14	X	Alphameric	Time Code
15-16	99	Numeric	Year
17-18	99	Numeric	Month
19-20	99	Numeric	Day
21-22	99	Numeric	Start Hour
23-27	99999	Numeric	Parameter Code
28-29	99	Numeric	Method Code
30-31	99	Numeric	Units Code
32	9	Numeric	Decimal Position
33-36	9999	Numeric	Reading
37-50			Repeat Columns 23-36
51-64			Repeat Columns 23-36
65-78			Repeat Columns 23-36
79	A	Alphabetic	Status Flag
80	9	Numeric	Action Code

Figure 9.1.1.b (contimued). AQDHS-II File Maintenance Transactions

Format 2 AQDHS-II Composite Transactions

Columns	Format	Symbol	Description
17-18	99	Numeric	Period
19-20	99	Numeric	Number of Samples
21	9	Numeric	Composite Type
22	X	Alphameric	Time Code*

All other fields have the same format and meaning as those in the standard Format 2 transaction.

* Use SAROAD time code (Volume V) instead of AQDHS time code.

Figure 9.1.1.b (continued). AQDHS-II File Maintenance Transactions

Format 3 AQDHS-II Transaction

Columns	Format	Symbol	Description
1	9	Numeric	Form Code
2-3	XX	Alphameric	State Code
4	A	Alphabetic	Agency Code
5-6	99	Numeric	Project Code
7	X	Alphameric	Time Code
8-12	99999	Numeric	Parameter Code
13-14	99	Numeric	Method Code
15-16	99	Numeric	Units Code
17	9	Numeric	Decimal Position
18-19	99	Numeric	Year
20-21	99	Numeric	Month
22-23	99	Numeric	Day
24-25	99	Numeric	Start Hour
26-29	9999	Numeric	Area Code
30-32	999	Numeric	Site Code
33-36	9999	Numeric	Reading
37-49			Repeat Columns 24-36
50-62			Repeat Columns 24-36
63-75			Repeat Columns 24-36
76-78			Unused
79	A	Alphabetic	Status Flag
80	9	Numeric	Action Code

Figure 9.1.1.b (continued). AQDHS-II File Maintenance Transactions

The following data names are valid references in an AQDHS-II retrieval specification statement:

ACTION-CODE
AGENCY
AREA-CODE
COMPOSITE-KEY-2
COMPOSITE-PERIOD
COMPOSITE-SAMPLES
COMPOSITE-TIME-CODE
COMPOSITE-TYPE
DATA-FIELDS*
DAY-CODE
DECIMAL-CODE
FORM-CODE
IDENT-KEY
KEY-1
KEY-2
KEY-3
METHOD-CODE
MONTH
NBR-OF-READINGS
PARAMETER-CODE
PROJECT
RPTING-SECTION*
SITE
START-HOUR
STATE
STATUS-FLAG*
TIME-CODE
UNIT-CODE
YEAR

An AQDHS-II retrieval specification statement may be written in one of three language forms: AQDHS-II retrieval language, inline COBOL language, or copied COBOL language. Each of these language forms allows the user the option of restricting the retrieval requested by using a string of conditional statements. The Boolean operators AND and OR may be used to connect these conditional statements. The subject field of one of these conditional statements may be any valid data field in an AQDHS-II master file record whose contents is to be tested or a literal to be compared against the object field. Likewise the object field of one of these conditional statements may be any valid data field or literal to be compared. The following relations may be used:

---

*Repeating data names.

= equal
> greater than
< less than
the legation of each of the above

As an example of the use of the retrieval language specifications described above, consider the following series of retrieval commands which specify records with required sets of parameter, method, and unit codes.

```
$$SELECT
(PARAMETER-CODE       = '11101'          AND
METHOD-CODE           = '91'             AND
UNIT-CODE             = '01')            OR
((PARAMETER-CODE      = '44101'          OR
PARAMETER-CODE        = '44102')         AND
METHOD-CODE           = '83'             AND
UNIT-CODE             = '01')            OR
PARAMETER-CODE        = '42401'          AND
METHOD-CODE           = '11'             AND
UNIT-CODE             = '07'
$$END
```

These retrieval specification cards are then processed by the system to produce a source retrieval program which is then compiled and used to retrieve the desired information. With the above retrieval specification, the following would be retrieved from the User's Master File:

All records having either a parameter-code of 11101 with a method-code of 91 and a unit of 01; or a parameter code of 44101 or 44102 if the method-code is 83 and the unit is 01; or a parameter-code of 42401 with a method-code of 11 and a unit-code of 07.

9.1.3.1 DETAILED LIST REPORT

The Detailed List Report produces a detailed, formatted listing of the data contained in the AQDHS-II master file or the retrieval answer file. The format of this report varies according to the sampling interval of the data contained in the records being processed. The sampling interval may represent an hourly (or multiples thereof), daily, weekly, monthly, quarterly, or composite period. The readings for each interval and the number of such readings are always included in the report. In addition, the user may elect to produce either a mean or sum report. In the mean report, the number of readings, the mean reading, and the maximum reading for each line and column are also printed. In the sum report, the number of readings and the sum of the readings for each line are printed.

9.1.3.2 SLIDING AVERAGE REPORT

The Sliding Average Report presents the readings contained in each record in the AQDHS-II master file or answer file, along with the sliding averages of these readings. Also printed are the number of readings and the mean and maximum values of the readings. When specified, the sum of the readings is printed rather than their mean and maximum values. The number of readings in each average is specified by the user. Readings for hourly, daily, weekly, monthly, or quarterly periods may be used. Composite data readings are excluded.

9.1.3.3 DATA ANALYSIS/STATISTICAL LIST PROGRAMS

The Data Analysis/Statistical List program set presents the following statistical information for data contained in the AQDHS-II master file:

Minimum and maximum observations
Second and third highest observations
Arithmetic mean
Arithmetic standard deviation
Geometric mean
Geometric standard deviation
Percentage of readings present
10th, 30th, 50th, 70th, 90th, 95th, 97th, 98th, and 99th percentile occurence

Composite data are not acceptable as input for this program set. A heading consisting of agency, state, project, standards, etc. is printed.

The Emissions Inventory Subsystem/Permits and Registration Subsystem (EIS/P&R) was created to provide a central source from which information necessary to air pollution control might be obtained. In order to accomplish this purpose, EIS/P&R contains a systematic method for collecting emission data into a data base, for updating and accessing the information contained in the data base, and for printing this information in usable form.

The File Maintenance and Retrieval programs form the nucleus of the EIS/P&R. The File Maintenance Program may be employed to create a new master file or update an existing master file. Each record contained on the master file is broken into three hierarchical segment types dealing with plant, point source, and machine process and/or permit and registration information. The master file is developed from the data contained on EIS/P&R point and area source transaction cards, which can either be punched from EIS/P&R load sheets or generated from NEDS data by means of a conversion program. Because permit and registration information may vary significantly from one agency to the next, the P&R data are recorded on the Master File in free format. This format also allows the user to store other types of information, such as that resulting from legal and surveillance activities. The File Maintenance Program requires two input files, the first containing the master file to be updated and the second containing the transactions that have been arranged in Master File sequence by means of a sorting program. One column on each transaction card is used to indicate whether a new file is to be added or an existing file is to be deleted or changed.

The data base created by the File Maintenance Program is called the EIS/P&R master file. The EIS/P&R master file is a three-level heirarchical file with three different segment types. The highest level segment is the plant segment. Subordinate to each plant segment are a maximum of 99 point source segments. Point sources are individual emission points in a plant, such as stacks within a given plant. Subordinate to each point source segment are up to six process segments. Each process segment describes a source classification or process emitting through a given point source. Each segment type on the master file has its own format consisting of various data fields. Each data field is related directly to a data field on one of the EIS/P&R input transaction cards. Just as these are three different segment types in the master file, there are three classes of input transaction cards. The 01 through 03 cards contain general plant identification, cards 11 through 13 the point source parameters, cards 21 through 23 the fuel and process parameters, and card 30 the permit and registration information. Figure 9.2.0.a shows the format of the EIS/P&R input transaction cards, and illustrates the type of information stored in the EIS/P&R master file.

The EIS/P&R Retrieval Program is more complex than the File Maintenance Program because of the greater number of options that must be accommodated. The first step in the retrieval procedure is the actual generation of a retrieval program based upon control cards inserted in the job stream. The "SORT" control card determines the field which is to be sorted and the order of the sort. The EIS/P&R retrieval language, containing a number of different relational operations, may then be employed to allow the retrieval of a selected set of data. This retrieval language used in the EIS/P&R system is similar to that used in the other CDHS subsystems. The user also has the option of specifying his own retrieval commands in COBOL rather than using the special retrieval language.

The EIS/P&R Summary Program can be used on the master file or a retrieval master file. Summations may be generated for the following quantities: source count, estimated emissions, actual emissions, allowable emissions, and control equipment cost. Up to five levels (e.g., SIC, county, etc.) may be specified for the summary report with the order of the summary levels determined by the "SORT" command used in the Master File Sort Program.

In addition to the programs just discussed, the EIS/P&R subsystem contains several programs that provide largely service functions. These include routines for NEDS to EIS/P&R emission conversion, emission factor table generation, formatted master file listing, transaction sorting, transaction generation, and emission factors insertions.

Card Columns 1-18 of all Cards (Key)

CC	Format	Symbol	Description
1 - 2	xx	Numeric Code	State Code
3 - 6	xxxx	Numeric Code	County Code
7 - 9	xxx	Numeric Code	AQCR Number
10 - 13	xxxx	Numeric Code	Plant Id
14 - 18	xxxxx	Numeric	Date of Record

Card 01 - Plant Identification

CC	Format	Symbol	Description
19 - 21	xxx	Alphanumeric Code	Control Region
22 - 23	xx	Alphanumeric Code	Local Control
24 - 35	x-x	Alphanumeric Code	Plant Id
36 - 39	xxxx	Numeric Code	City
40 - 41	xx	Numeric Code	UTM ZONE
42	A	Alphabetic Code	Ownership
43 - 57	A-A	Alphabetic	Contact
58 - 67	x-x	Alphanumeric	Telephone
68 - 77	x-x	Alphanumeric	Principal Product
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a. Description of EIS/P&R Transaction Cards

Card 02 - Plant Identification

CC	Format	Symbol	Description
19 - 66	x-x	Alphanumeric	Name and Address
67 - 70	x-x	Numeric	Number of Employees
71 - 76	xxxxx.x	Numeric	Property Area
77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Card 03 - Plant Identification

CC	Format	Symbol	Description
19 - 66	x-x	Alphanumeric	Mailing Address
67 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

CARD LEVEL ONE

Card 11 - Point Source Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment ID
21 - 22	xx	Numeric	Point Id (NEDS)
23 - 25	xxx	Alphanumeric	Point Id (Local)
26 - 29	xxxx	Numeric	SIC Code
30 - 31	xx	Numeric	IPP Code
32 - 35	xxx.x	Numeric	UTM Horizontal Coordinates
36 - 40	xxxx.x	Numeric	UTM Vertical Coordinates
41 - 46	x-x	Numeric	Latitude
47 - 53	x-x	Numeric	Longitude
54 - 61	x-x	Numeric	% Annual Throughput
62 - 66	xxxxx	Numeric	Normal Operating
67 - 71	xxxxx	Numeric	Boiler Design Capacity
72 - 74	xx.x	Numeric	Space Heat %
75 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 12 - Point Source Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment ID
21 - 24	xxxx	Numeric	Stack Height
25 - 27	xx.x	Numeric	Stack Equivalent Diameter
28 - 31	xxxx	Numeric	Stack Temperature
32 - 38	x-x	Numeric	Exhaust Flow Rate
39 - 43	xxxxx	Numeric	Velocity
44 - 47	xxxx	Numeric	Plume Height
48 - 51	xxxx	Numeric	Points with Common Stack
52	x	Numeric	Compliance Status
53 - 56	xxxx	Numeric	Compliance Schedule
57 - 62	xxxxxx	Numeric	Compliance Update
63	x	Numeric	ECAP
64 - 75	x-x	Numeric	Control Regulations
76 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 13 - Point Source Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment ID
21 - 25	xxxxx	Numeric	Pollutant ID
26 - 32	xxxxxx.xx	Numeric	Control Equipment Cost
33 - 35	xxx	Numeric	Primary Control Equipment
36 - 38	xxx	Numeric	Secondary Control Equipment
39 - 41	xx.x	Numeric	Estimated Control Efficiency
42 - 48	xxxxxxxx	Numeric	Emissions Estimate
49 - 55	xxxxxxxx	Numeric	Emissions Measured
56 - 62	xxxxxxxx	Numeric	Allowable Emissions
63	x	Numeric	Emission Units
64	x	Numeric	Estimation Method
65	x	Numeric	Test Method
66 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 21 - Fuel, Process Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 2 ID
23 - 30	x-x	Numeric Code	SCC Code
31 - 35	xxxxx	Numeric Code	BEC Code
36	x	Numeric Code	Fuel Units
37 - 43	xxxxxxx	Numeric	Fuel, Process, Solid Waste
44 - 50	xxxxx.xxx	Numeric	Maximum Design
51 - 53	x.xx	Numeric	Sulfer Content
54 - 56	xx.x	Numeric	Ash Content
57 - 61	xxxxx	Numeric	Heat Content
62 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 22 - Fuel, Process Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 2 ID
23	x	Numeric	Confidentiality of data
24	x	Alphabetic	Source Code
25 - 49	x-x	Alphanumeric	Source Description
50	x	Alphabetic	Emission Factor Source
51 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 23 - Fuel, Process Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 2 ID
23 - 27	xxxxx	Numeric	Pollutant ID Code
28 - 36	xxxxxxx.xxx	Numeric	Emission Factor
37	x	Alphabetic Code	Ash/Sulfur Code
38	x	Numeric Code	Emission Factor Units
39 - 54			Repeat CC 23 - 38
55 - 70			Repeat CC 23 - 38
71 - 77			Not Used
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic Code	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

Card 30 - Permits and Registration Parameters

CC	Format	Symbol	Description
19 - 20	xx	Numeric	Segment 1 ID
21 - 22	xx	Numeric	Segment 3 ID
23 - 25	xxx	Numeric	Line Number
26	x	Alphabetic	Comment Flag
27 - 77	x-x	Alphanumeric	Comment
78 - 79	xx	Numeric	Card Number
80	x	Alphabetic	Transaction Code

Figure 9.2.0.a (continued). Description of EIS/P&R Transaction Cards

The following fields from the plant segment may be referenced in an EIS/P&R retrieval specification statement:

AQCR
CITY
CONTACT
COUNTY
DATE-OF-RECORD
LOCAL-CONTROL
NUMBER-OF-EMPLOYEES
OWNER
PLANT-ID
PRINCIPAL-PRODUCT
PROPERTY-AREA
RECORD-0-DAY
RECORD-0-YEAR
SEG-0-ID
SEG-0-SET-ID
SEGMENT-0-ID
STATE
TELEPHONE
USER-CONTROL-REGION
USER-PLANT-ID
UTM-ZONE

Under certain circumstances, the fields ESTABLISHMENT and MAILING-ADDRESS may also be referenced in a retrieval specification in COBOL language.

The following fields from the point source segment may be referenced in an EIS/P&R retrieval specification statement:

ANNUAL-THRUPUT
BOILER-DESIGN-CAPACITY
COMPLIANCE-STATUS
COMPLIANCE-STATUS-UPDATE
CONTROL-REGULATIONS
DATE-OF-1-RECORD
DAY-WEEK
DEC-FEB
DIAMETER
ECAP
FLOW-RATE
HEIGHT
HORIZONTAL
HOURS-DAY
IPP
JUN-AUG
LATITUDE
LATITUDE-DEGREE
LATITUDE-MINUTE
LATITUDE-SECOND
LONGITUDE
LONGITUDE-DEGREE
LONGITUDE-MINUTE
LONGITUDE-SECOND
MAR-MAY
NBR-OF-POLLUTANTS
NEDS-POINT-ID
NORMAL-OPERATING
PLUME
POINT-ID
POINTS-PER-STACK
RECORD-1-DAY
RECORD-1-YEAR
REG-1
REG-2
REG-3
SCHEDULE-MONTH
SCHEDULE-YEAR
SEG-1-ID
SEG-1-SET-1-ID
SEGMENT-1-ID
SEP-NOV
SIC
SPACE-HEAT
STACK-DATA
STATUS-DAY
STATUS-MONTH
STATUS-YEAR
TEMPERATURE
USER-POINT-ID
UTM-COORDINATES
VELOCITY
VERTICAL
WEEK-YEAR

The following fields from the repeating portion of the point source segment may be referenced:

ALLOWABLE
CNTL-EQUIP-COST
CONTROL-EQUIPMENT
EMISSIONS-UNITS
EMISSIONS
EST-CONTROL-EFF
ESTIMATES
ESTIMATION-METHOD
MEASURED
POLLUTANT-ID
PRIMARY-CNTL
SECONDARY-CNTL
TEST-METHOD

The following list of names from the machine process segment may be referenced in either the EIS/P&R retrieval specification language or in COBOL language specifications

ASH-CONTENT
BEC
BEC-ID
BEC-NUMBER
CONFIDENTIALITY
DATE-OF-2-RECORD
EMISSION-FACTOR-SOURCE
FUEL-PROCESS-RATE
FUEL-UNITS
HEAT-CONTENT
MAX-DESIGN-RATE
NUMBER-OF-EF
RECORD-2-YEAR
RECORD-2-DAY
SCC
SCC-I
SCC-II
SCC-III
SCC-IV
SEG-2-ID
SEG-2-SET-1-ID
SEG-2-SET-2-ID
SEGMENT-2-ID
SOURCE-CODE
SOURCE-DESCRIPTION
SULFUR-CONTENT

The following list of names from the permits and registration segment may be referenced in either the EIS/P&R retrieval specification language or in COBOL language specifications.

DATE-OF-3-RECORD
LINE-NUMBER
RECORD-3-DAY
RECORD-3-YEAR
SEG-3-ID
SEG-3-SET-1-ID
SEG-3-SET-3-ID
SEGMENT-3-ID

The following three names from the permits and registration segment may be referenced in a retrieval specification in the COBOL language only.

COMMENT-L
COMMENT-R
COMMENTS

The master file sort program can be used to sort all fields referenced in an EIS/P&R retrieval specification statement. They may be sorted either in ascending or descending order.

An EIS/P&R retrieval specification statement may be modified either by subordinate EIS/P&R fixed format clauses or by a short COBOL program. Regardless of the method employed, the result is to restrict the retrieval requested by using a string of conditional statements. For example, the restrictions that data will be retrieved only if the state code is greater than 40 or if the code is less than 10 may be imposed. In general, any data field name acceptable for retrieval may be used as the subject or object of a restricting conditional statement. A numeric literal or an alphanumeric literal may also be used as the object. The following are relations that may be used:

CODE	MEANING
=	equal
<	less than
>	greater than
N=	not equal
N<	not less than
N>	not greater than

The File List program produces a detailed, formatted listing of the EIS/P&R master file. One point source record is listed per page with an appropriate plant/location heading. If the plant has more than one point source, the plant/location heading is repeated for each point source page.

The File List program can also produce a detailed listing of area source records, but in this case the page headings will be meaningless.

The Summary Report program produces a summary of emissions for any combination of five data fields in the point and stack data. Because emissions are by pollutant, one of the five fields chosen should be the pollutant data field unless the user chooses to identify the pollutant in the Summary Report Header. Subtotals may be printed for each of the data fields up to the pollutant data field. The Summary Report program can be used in conjunction with the EIS/P&R Retrieval and SORT programs so that only retrieved data from the Master File is sorted to correspond to the summary requested and is the input file to the summary program. The following data values are summarized:

1. Source Count - This is a sum of sources emitting a pollutant.
2. Estimated Emissions - This is a sum of estimated emissions.
3. Actual Emissions - This is a sum of actual (measured) emissions.
4. Allowable Emissions - This is a sum of allowable (standard) emissions.
5. Control Equipment Cost - This is a sum of the cost for the control equipment.

As an example, the Summary Report program may produce a summary of emissions by plant within SIC within city within county for a given pollutant. Subtotals at the plant, SIC, city, and county levels may be printed in addition to pollutant totals.

The program allows the user flexibility in choosing a heading for the Summary Report. The default heading is:

```
                   AIR POLLUTANT EMISSIONS SUMMARY
EMISSIONS INVENTORY SYSTEM       FROM AIR POLLUTION CONTROL AGENCY
STANDARD SUMMARY OUTPUT          TO INFORMATION
BREAK BREAK BREAK BREAK BREAK
FIVE FOUR THREE TWO ONE
```

A Summary Report can be temporary or permanent. A permanent report is one stored in a library to be used over and over again.